

International Property Measurement Standards: Retail Buildings

International Property Measurement Standards Coalition



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Welcome to IPMS: Retail Buildings

On behalf of the IPMS Coalition we present *IPMS: Retail Buildings*. The Coalition comprises organisations from all over the world, who have come together to create one shared international standard for property measurement. We have recognised that there has been a lack of consistent measurement standards within many markets. Our profession and consumers deserve better.

IPMS: Retail Buildings follows feedback from previous building classes consultations and discussions with many stakeholders over inconsistencies in retail measurement within and across markets. It is a continuation of the work already carried out in relation to measurement of office, residential and industrial buildings and part of a programme of work that includes preparing IPMS standards for other building classes and for mixed use.

The Coalition accepts that standard setting is a never-ending process of continuous improvement and will be listening closely to the market to make future developments to the standard as and when needed.

As a Coalition we are also continuing the important work of implementation through engaging with governments, occupiers, owners and other important stakeholders. You can view the list of well over 200 companies and governments that have committed to using IPMS at www.ipmsc.org

In preparing this document, the Coalition wishes to acknowledge the work on the floorplans by Professor Marc Grief of Mainz University of Applied Sciences and Tom Pugh of Malcolm Hollis.

For further information on IPMS please visit www.ipmsc.org

Lisa Prats, Trustee for BOMA International, Chair of the Board of Trustees IPMS Coalition

Kenneth M Creighton, Trustee for RICS, Vice Chairman of the Board of Trustees IPMS Coalition

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Introduction to IPMS Coalition

The International Property Measurement Standards Coalition (IPMSC) was formed on 30 May 2013 after meeting at the World Bank in Washington DC. The **Coalition**, comprising (at the date of publication) the 89 organisations listed below, aims to bring about the harmonisation of national property measurement standards through the creation and adoption of agreed international standards for the measurement of **Buildings**.

This document for the measurement of **Retail Buildings** is the fourth building class document prepared by the **Coalition's** Standards Setting Committee (SSC). The **Coalition** members at the date of publication include:

- Asociación de Consultoras Inmobiliarias (ACI)
- La Asociación Española de Análisis de Valor (AEV)
- Appraisal Institute (AI)
- Asian Association for Investors in Non-listed Real Estate Vehicles (ANREV)
- Asociación de Promotores Constructores de España (APCE)
- Asociación Española de Geómetras Expertos (AEGEX)
- Australian Property Institute (API)
- Asia Pacific Real Estate Association (APREA)
- Asociación Profesional de Sociedades de Valoración (ATASA)
- The American Society of Farm Managers and Rural Appraisers (ASFMRA)
- Italian Real Estate Industry Association (ASSOIMMOBILIARE)
- American Society for Testing and Materials (ASTM)
- Federation of real estate investment Expert (Bundesverband der Immobilien-Investment-Expert (BIIS))
- British Property Federation (BPF)
- Building Owners & Managers Association Canada (BOMA Canada)
- Building Owners & Managers Association China (BOMA China)
- Building Owners & Managers Association Indonesia (BOMA Indonesia)
- Building Owners & Managers Association International (BOMA International)
- Building Owners & Managers Association Japan (BOMA Japan)
- China Institute of Real Estate Appraisers and Agents (CIREA)
- Chongqing Real Estate Association
- Commonwealth Association of Surveying and Land Economy (CASLE) Consiglio Nazionale Geometri e Geometri Laureati (CNGeGL)
- European Association of Real Estate Professions (CEPI-CEI)
- CoreNet Global
- Council of European Geodetic Surveyors (CLGE)
- Council on Tall Buildings and Urban Habitat (CTBUH)
- Counselors of Real Estate (CRE)
- Cyprus Association of Civil Engineers (CYACE)
- Cypriots Architects Association (CAA)
- Czech Banking Association (CBA)
- Emirates Green Building Council (EmiratesGBC)
- European Mortgage Federation (EMF)
- Technical Chamber of Cyprus (ETEK)
- Facility Management Institute Slovakia (FMI)
- FM Institute Czech
- International Real Estate Federation (FIABCI)
- International Federation of Surveyors (FIG)
- Ghana Institution of Surveyors (GhIS)
- Society of Property Researchers, Germany (GIF)
- GRESB
- HypZert
- International Association of Assessing Officers (IAAO)
- International Consortium of Real Estate Associations (ICREA)
- Institute of Estate Agents Singapore (IEAS)
- Hungarian Real Estate Developers Association (IFK)
- International Facility Management Association (IFMA)
- International Facility Management Association – Poland (IFMA)
- European Association for Investors in Non-Listed Real Estate Vehicles (INREV)
- International Monetary Fund (IMF)
- Institute of Philippines Real Estate Appraisers (IPREA)
- Institute of Real Estate Management (IREM)
- International Right of Way Association (IRWA)
- Institution of Surveyors Kenya – ISK
- International Union of Tenants (IUT)
- luav University of Architecture
- Japanese Association of Real Estate Appraisers (JAREA)
- Japan Association of Real Estate Counselors

(JAREC)

- Bulgarian Chamber of Professional Valuers (KPO)
- The Middle East Council of Shopping Centres (MECSC)
- Nigerian Institution of Estate Surveyors and Valuers (NIESV)
- National Society of Professional Surveyors (NSPS)
- Ordre des géomètres experts français (OGE)
- Cyprus Federation of Building Contractors Associations (OSEOK)
- Open Standards Consortium for Real Estate (OSCRE)
- Polish Green Building Council (PGBC)
- Property Institute New Zealand (PINZ)
- Property Council of Australia (PCA)
- Property Council New Zealand (PCNZ)
- ProProgressio
- Queensland Spatial & Surveying Association (QSSA)
- The Real Estate Institute of Botswana (REIB)
- Real Estate Syndicate of Lebanon (REAL)
- Real Property Association of Canada (REALpac)
- Real Estate Investments Zimbabwe (REIZ)
- Royal Institute of British Architects (RIBA)
- Royal Institution of Chartered Surveyors (RICS)
- Royal Society of Ulster Architects (RSUA)
- Russian Cadastral Engineers
- South African Property Owners Association (SAPOA)
- Society of Chartered Surveyors Ireland (SCSI)
- SECOVI – SP (SECOVI)
- Cyprus Association of Quantity Surveyors and Construction Economists (SEEOKK)
- Society of Office and Industrial Realtors (SIOR)
- Swiss Surveyors Association (IGS)
- Appraisal Foundation (TAF)
- International Union of Property Owners (UIPI)
- The National Union of Economists of the Construction (UNTEC)
- Germany Property Federation (ZIA)

Research by the **SSC** has found that measurement practices vary substantially across local and global retail markets. The **SSC** has focused only on issues directly related to **Building** measurements and calculated areas within a **Building**. It is acknowledged that globally there are different **Floor Area** measurements adopted in construction, transactions and valuation. *IPMS: Retail Buildings* will not only provide clarity for those purchasing or leasing retail property, but also enable comparison of differing measurement standards by interfacing to **IPMS**.

IPMS, as an international property measurement standard, has been created through a transparent, detailed and inclusive standard setting process by the **SSC**. It supports associated financial reporting and valuation standards such as the International Financial Reporting Standards (IFRS) and, in the USA, the Uniform Standards of Professional Appraisal Practice (USPAP). The International Valuation Standards Council (IVSC) supports **IPMS**, which should be read in conjunction with International Valuation Standards (IVS).

The **SSC** has spent considerable time researching established standards to ensure that existing intelligence has not been wasted. The **SSC** did not identify any existing retail measurement standard that was suitable for adoption internationally. **IPMS** is not a hybrid of those standards but does introduce some concepts that may be new to some markets. These concepts have been further refined for the purpose of **IPMS**.

IPMS is a high level and overarching standard. Markets that do not have an existing established measurement standard are encouraged to adopt **IPMS**. The **SSC** expects **IPMS** to work initially in parallel with local standards and for a dual reporting basis and interface to be adopted where appropriate. In time, the **SSC** expects **IPMS** to become the primary basis of measurement across all markets.

The **SSC** considered it unrealistic to create a single standard that would immediately apply to all classes of **Buildings** because each has distinctive characteristics that require individual analysis. However, the principles, methodology and measurement practices developed for **IPMS** will be similar for all **Buildings**. **IPMS** needs to be consistent as another class of **Building**, mixed use, incorporates several **Building** classes.

In order to resolve confusion with terms that have established definitions the **SSC** avoided using existing **Floor Area** descriptions such as Gross External Area (GEA), Gross Internal Area (GIA), Gross Lettable Area (GLA), Net Internal Area (NIA), Net Leasable Area (NLA) and Net Lettable Area (NLA). These terms are commonly, but inconsistently, used in markets across the world.

The **SSC** consulted widely to understand the measurement conventions used in different international markets against the background of the impact on consumers of non-transparent and varying local market practices. Our research found there was a need to measure the external area of a **Building** and **Component Areas**, for planning purposes or for the summary costing of development proposals. The **SSC** decided to refer to this as **IPMS 1** and apply it to all classes of **Building**. **IPMS 2 – Retail** was developed to measure the internal area of a **Building** and **Component Areas** and will assist the **Property Industry** in making efficient use of space and benchmarking data. It was also important to measure areas in exclusive occupation for transactions and other purposes. The **SSC** identified three different measurement bases, **IPMS 3A – Retail**, **IPMS 3B – Retail** and **IPMS 3C – Retail**, that were required to meet global market needs. Some markets require only one of these measurement bases, but others may use two or three for different purposes.

IPMS Standards Setting Committee

In July 2013 the **IPMSC** selected real estate experts from around the world to form its **Standards Setting Committee (SSC)** and develop global standards for property measurement.

The **SSC** brings together experts including academics, real estate fund and asset managers, valuers, and specialists in development and construction. The **SSC** acts independently from the **Coalition** and its respective members.

At the time of publication, the **SSC** members and co-authors of this standard for **Retail Buildings** are:

Chairman: Kent Gibson BOMA Fellow (USA)

Vice Chairman: Frederic Mortier MSc (Belgium)

Executive Secretary to the Committee: Alexander Aronsohn FRICS (UK)

Alex Leung MHKIS, MRICS, MCIREA (China)

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Tom Pugh FRICS (UK)

Wolfgang Glunz (Germany)

Definitions

Amenity Area

An area included in the **Building** being measured, used and shared by some or all of the occupiers or their visitors for supplementary purposes, for example food courts, child-minding facilities and prayer rooms.

Ancillary Area

An area in exclusive use in the same **Building**, which is separate from the main area being measured and is being used for supplementary purposes.

Balcony

See **External Floor Area**.

Balustrade

A protective barrier formed by a solid **Wall**, railing or other feature.

Building

An independent attached or detached **Structure**, which may include a **Covered Area** in whole or in part, forming all or part of a **Property**.

Catwalk

An internal or external walkway above the surrounding area that provides higher level access.

Clear Height

The height within a **Building** or section of a **Building** measured from the floor to the lowest point of the structural element above, ignoring the existence of any brackets, struts or fixtures and fittings.

Coalition

The Trustees of **IPMS**, comprising not-for-profit organisations each with a public interest mandate.

Column

See **Pillar**.

Common Facilities

Those parts of a **Building** that would, in multiple occupation, provide shared facilities that typically do not change over time and may include, for example, circulation areas, stairs, escalators, lifts/elevators and motor rooms, toilets, cleaners' cupboards, plant rooms, fire refuge areas, maintenance rooms and unallocated parking spaces.

Component

One of the main elements into which the **Floor Area** of a **Building** can be divided.

Component Area

The total **Floor Area** attributed to one of the **Components**.

Covered Area

The extent of the area of a **Building** covered by one or more roof(s) and the perimeter of which is sometimes referred to as the drip line, being the outermost permanent structural extension, exclusive of ornamental overhangs.

External Floor Area

An external platform at an upper floor level with a **Balustrade** to the open side projecting from or recessed from an **External Wall** and including generally accessible rooftop terraces, balconies, external galleries and loggia.

External Wall

The enclosing element of a **Building**, including windows and **Walls**, that separates the exterior area from the interior area.

Finished Surface

The **Wall** surface directly above the horizontal wall-floor junction, ignoring any panelling or shop fittings, skirting boards, cable trunking, pipework and heating and cooling units.

Floor Area

The area of a normally horizontal, permanent, load-bearing structure for each level of a **Building**.

IDF (Internal Dominant Face) Wall Section

The lateral extent of each section of an **External Wall** or other external construction feature, where the inside finished surface area of each part of a window, **Wall** or other external construction feature varies from the inside surface area of the adjoining window, **Wall** or external construction feature, ignoring the existence of any **Pillars**.

Internal Dominant Face (IDF)

The inside surface area comprising more than 50 per cent of the lowest 2.75 metres measured vertically from the floor, or to the ceiling if lower, for each **IDF Wall Section**. If such does not occur, the **Finished Surface** is deemed to be the **IDF**.

Internal Height

The height within a **Building** or section of a **Building** measured from the floor to the lowest point of a ceiling or suspended ceiling, ignoring the existence of any brackets, struts or fixtures and fittings.

Internal Wall

A full-height **Wall**, whether or not structural, that separates one interior area from another.

IPMS

International Property Measurement Standards.

IPMSC

The International Property Measurement Standards Coalition.

IPMS 1

The total of the areas of each floor level of a **Building** measured to the outer perimeter of **External Walls** or other external construction features, **Sheltered Areas** and **External Floor Areas**.

IPMS 2

The total of the areas of each floor level of a **Building** measured to the **Internal Dominant Face (IDF)** of all **External Walls** and **External Floor Areas** on each level.

IPMS 3

The **Floor Area** available on an exclusive basis to an occupier.

Loading Bay

Area(s) designed for vehicles next to or adjacent to a **Loading Dock**.

Loading Dock

Elevated platform(s) at an opening of a **Building** designed for receiving or dispatching goods or equipment.

Mall Line

See **Shop Line (Presumed Boundary)**.

Mezzanine

An intermediate or partial floor, other than a **Catwalk**, that is usually fully or partially open on one or more sides.

Patio

A paved or floored terrace, adjacent to a **Building**, which may or may not be covered by an independent framework.

Pillar

An upright slender building element, whose primary purpose is to provide structural support.

Property

Any real estate asset in the built environment.

Property Industry

Comprises **Users**, **Service Providers** and **Third Parties**.

Retail Building

A **Building** predominately used for retail purposes, whether or not part of the **Building** is used for other purposes.

Room

A separately defined, usually enclosed, floor area subdividing a **Space** normally bounded by **Walls** or other dividing features.

Service Provider

Any entity providing real estate related services to a **User** or **Third Party** including, but not limited to, **Valuers**, surveyors, facility managers, property managers, asset managers, agents and brokers, **Space Measurement Professionals**, cost consultants, interior designers and architects.

Sheltered Area

Any part of the **Covered Area** that is not fully enclosed but excluding insignificant areas under the eaves.

Shop Line (Presumed Boundary)

The notional line established as the maximum potential extent of the retail area in exclusive use. This may be the actual shop front or, in shopping centres for example, may be known as the **Mall Line**.

Space

Any area forming a part of a **Building** other than a **Room**.

Space Measurement Professional

A **Service Provider** qualified by experience or training to measure **Buildings** in accordance with IPMS.

SSC

The Standards Setting Committee (**SSC**) appointed by the **IPMSC** to develop global standards for property measurement.

Standard Facilities

See **Common Facilities**.

Structure

A construction that provides shelter or serves an ancillary function, but is not necessarily fully enclosed.

Temporary Structure

A physical element within a **Building** installed on an interim or permanent basis, the removal of which would not damage the physical integrity of the **Building**.

Third Party

Any entity other than a **User** or **Service Provider** with an interest in property measurement including, but not limited to, governments, banks, other property financing bodies, data analysts and researchers.

User

An owner-occupier, developer, investor, purchaser, vendor, landlord or tenant.

Valuer

A **Service Provider** with an appropriate professional qualification in valuation or appraisal.

Veranda

An open or partly enclosed area on the outside of a **Building** normally at ground level (level 0) and covered by a roof that is an integral part of the **Building**.

Wall

A vertical element whose primary purpose is to fully or partially enclose or subdivide a **Space** or **Room**.

Part 1 Aim and Scope of the Standards

1.1 Aim of the standards

The aim of **IPMS** is to provide transparency in the measurement of **Buildings**. **IPMS** supports the requirements of **Service Providers**, **Third Parties** and **Users of Property** for consistency in measurement reporting. Until now the stated area of floor space in identical **Buildings** has varied considerably between countries, and sometimes within the same country, owing to differing measurement conventions.

The measurements can be used for asset management, benchmarking, construction, facility management, marketing, property financing, research, transaction, valuation and other purposes.

1.2 Use of the standards

IPMS defines what is to be measured in a **Building** and the measurement parameters. **IPMS** does not dictate how measurements are to be obtained.

The appropriate **IPMS** building class (such as office, residential, industrial, retail) to be used should be chosen according to the current or proposed designed function of the **Building** or part of a **Building** being measured.

IPMS can be used for any purpose agreed between **Users**, **Service Providers** and **Third Parties**.

IPMS provides a common language that can interface with existing local measurement standards.

1.3 Accuracy

Service Providers must adopt appropriate measuring and computing processes so as to satisfy the requirements of **Users**. These requirements can range from a broad approximation for some purposes to a precise calculation for contractual or other reasons.

1.4 Floor level designation

The **SSC** found there to be no market consistency in the reference to a particular level.

For all property classes **IPMS** has adopted level 0 as the primary ground level. Upper and lower levels are referred to sequentially as the number of levels above or below level 0. For example, levels 1, 2 or 3, etc. are above level 0, and levels -1, -2 or -3, etc. are below level 0.

Part 2 Principles of Measurement

2.1 General principles of measurement and calculation

IPMS is a factual measurement and must not include understated or inflated **Floor Area(s)**. The SSC has adopted the following fundamental principles of measurement and calculation, which apply to all **Buildings**:

1. The item must be capable of being measured.
2. The measurement must be objectively verifiable.
3. All measurements with the exception of height are to be taken horizontally.
4. The measurements and calculations must be clearly documented and the following stated:
 - the IPMS standard used, for example, IPMS 1, IPMS 2 – Retail, IPMS 3A – Retail, IPMS 3B – Retail or IPMS 3C – Retail
 - the method of measurement and the tools used (see Section 2.2)
 - the unit of measurement
 - the date of the measurement and
 - whether the measurement is verified on site.
5. **Buildings** are to be measured individually and reported on a floor-by-floor basis as existing or proposed at the time of measurement.
6. The principles of IPMS should be extrapolated using a common-sense approach.

2.2 Best measurement practice

2.2.1 General

The SSC recommends that all IPMS measurements are supported by computer-generated drawings, if available, but where other drawings are used as a basis for measurement annotated dimensions on drawings should be used in preference to a reliance on scaling alone.

The **Service Provider** must report how the **Floor Area** has been established, for example by computer-generated drawings, other drawings or by laser or tape measurement.

2.2.2 Unit of measurement

Measurements and calculations should be in the unit commonly adopted in the relevant country.

Users and **Third Parties** may require measurements to be converted between imperial and metric, in which case the conversion factor must be stated.

2.2.3 Measurement reporting

Any **Component Area** under IPMS 1 or IPMS 2 reported to a **User** or **Third Party** should, where practical and appropriate, be cross-referenced to an appropriately coloured drawing and **Component Area** spreadsheet.

When reporting measurements and **Floor Areas** for proposed developments, **Service Providers** must take special care to ensure that measurements are cross-referenced as accurately as is reasonably possible to plans at the date of reporting.

2.3 Limited use areas

Service Providers need to be aware that in certain markets there may be areas in **Buildings** that are incapable of legal or effective occupation due to local or national legislation. Such areas and their limitations are to be identified, measured and stated separately within **IPMS** reported areas. If areas are subject to a restriction, this should be stated in the reporting document and in any **Component Area** spreadsheet.

Users and **Third Parties** need to be aware that the inclusion of measured areas in **IPMS** does not necessarily mean that the areas are available for legal occupation or use.

The reason why a particular area is regarded as a limited use area must be stated.

The following examples are not exhaustive:

Example 1 – Area difference from Internal Dominant Face

There may be a need to show the difference, if any, in **Floor Area** between measurements taken to the **IDF** and measurements taken to the wall-floor junction.

Example 2 – Areas with height restriction

In various markets, areas defined as having limited or restricted height are identified separately. This height can vary between jurisdictions and in some instances the restricted height may be due to construction features. Where this is the restricted height adopted, this should be stated.

Example 3 – Areas with limited natural light

In some jurisdictions, areas with limited natural light in a **Building** are required to be identified separately.

Example 4 – Above and below ground

A **Building** may include floors below ground level. For measuring purposes, this may be important in determining the conditions under which the premises may be used in compliance with local or national legislation, rules on fitness for habitation, or taxation.

2.4 Adjustment between IPMS and other standards

Where dual reporting is adopted, reconciliation between **IPMS** and the standard referred to must be appropriately explained. The **SSC** recommends that **Coalition** members provide interface guidance in their local implementation procedures for their respective membership.

Part 3 IPMS Standards

The IPMS standards (and their principal uses) are:

- IPMS 1 (External).
- IPMS 2 – Retail (Internal).
- IPMS 3A – Retail (Occupier).
- IPMS 3B – Retail (Occupier).
- IPMS 3C – Retail (Occupier).

3.1 IPMS 1

3.1.1 Use

IPMS 1 is used for measuring the area of a **Building** including **External Walls**.

The primary intent of IPMS 1 is for use for planning purposes or the summary costing of development proposals.

IPMS 1 is a whole **Building** measurement.

3.1.2 Definition

IPMS 1: The total of the areas of each floor level of a **Building** measured to the outer perimeter of **External Walls** or other external construction features, **Sheltered Areas** and **External Floor Areas**.

The definition for IPMS 1 is the same for all classes of **Building**.

Measurement practice:

Areas for IPMS 1 are to be taken from drawings or on site.

If required, IPMS 1 can be reported on a **Component-by-Component** basis for each floor of the **Building**. The aggregate of the **Component Areas** must equal IPMS 1.

If there are no available plans for a basement, the area must include an estimation of the **External Wall** thickness.

In respect of **Sheltered Areas**, IPMS 1 is to be measured to the **Covered Area**. In respect of roller shutters and other openings the principal external perimeter line of the **Building** across such openings should be followed to measure IPMS 1.

External Floor Areas and internal permanent **Mezzanines** are to be measured to the outside edge of the **Balustrade** but never to exceed the outside edge of the floor construction.

Inclusions:

IPMS 1 includes all areas and **Walls, Pillars** and enclosed walkways or passages between separate **Buildings**, available for direct or indirect use. Enclosed void areas such as atria are only included at their lowest floor level.

Measurements included but to be stated separately:

External Floor Areas, Sheltered Areas, Verandas and **Mezzanines** are included but the measurement of each must be stated separately.

Measurements excluded but to be stated separately if measured:

Measurement for **IPMS 1** does not include:

- **Temporary Structures**
- open light wells or the upper level voids of an atrium
- open external stairways that are not an integral part of the **Building**, for example, an open framework fire escape
- any **Structure** beyond the **Covered Area**.

3.1.3 Summary

Included	Included but stated separately	Excluded but stated separately if measured
<ul style="list-style-type: none"> • Walls, Pillars. 	<ul style="list-style-type: none"> • The areas between the Shop Line (Presumed Boundary) and outer face of the External Wall. 	<ul style="list-style-type: none"> • Any other Temporary Structures or ground level areas beyond the Covered Area.
<ul style="list-style-type: none"> • Covered void areas such as atria are only measured and included at their lowest level. 	<ul style="list-style-type: none"> • Sheltered Areas measured to the outer perimeter of the Covered Area. 	<ul style="list-style-type: none"> • Any other Structures or ground level areas beyond the Covered Area.
	<ul style="list-style-type: none"> • External Floor Areas and internal permanent Mezzanines measured to the outer face of the Balustrade but never to exceed the outside edge of the floor construction. 	
	<ul style="list-style-type: none"> • Enclosed walkways or passages connecting separate Buildings. 	

Diagram 1 shows by red lines the extent of IPMS 1 measurements.

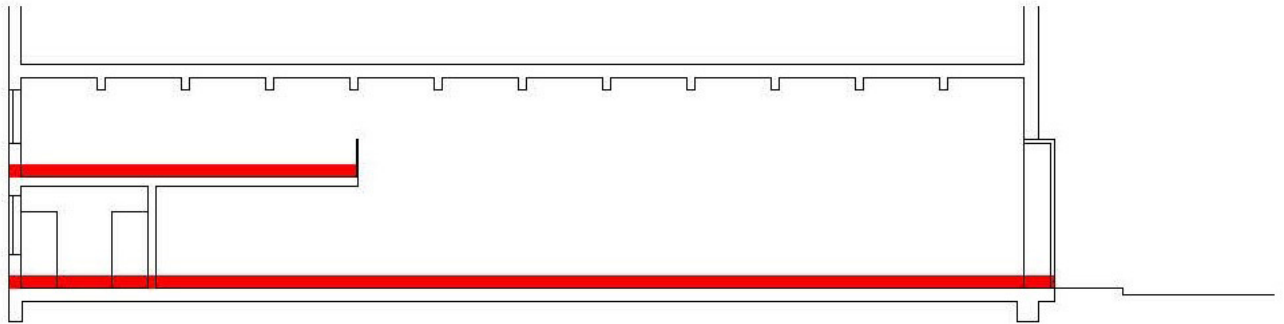


Diagram 1: IPMS 1 – Retail (units cross section)

Diagram 2 shows the extent of **IPMS 1 – Retail** at level 0, when the development of four retail units is treated as a **Building**.

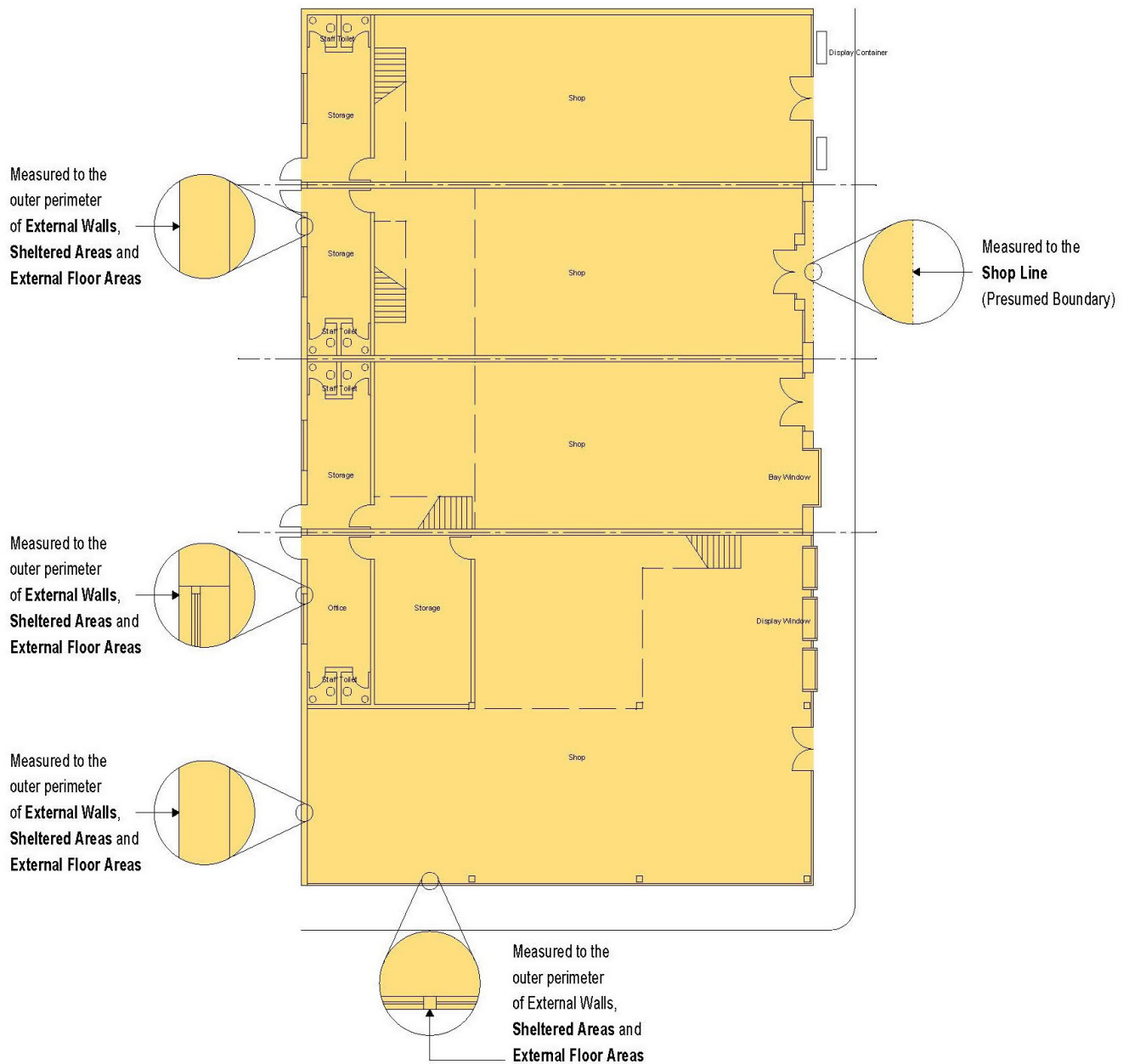


Diagram 2: IPMS 1 – Retail (units at level 0)

Diagram 3 shows the extent of **IPMS 1 – Retail at Mezzanine level**, when the development of four retail units is treated as a **Building**.

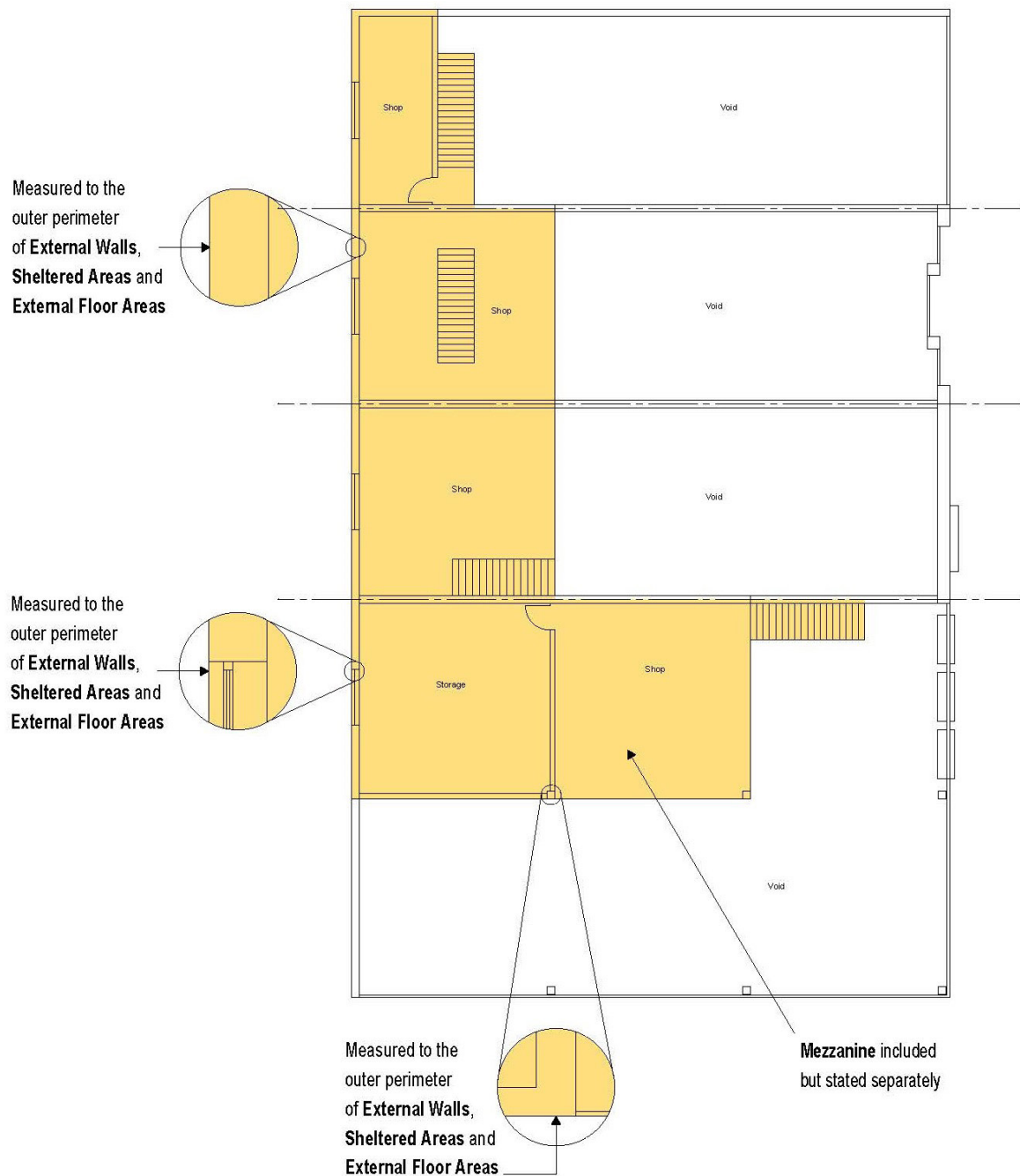


Diagram 3: IPMS 1 – Retail (four units at Mezzanine level)

Diagram 4 shows the retail mall level 0 as a **Building**.

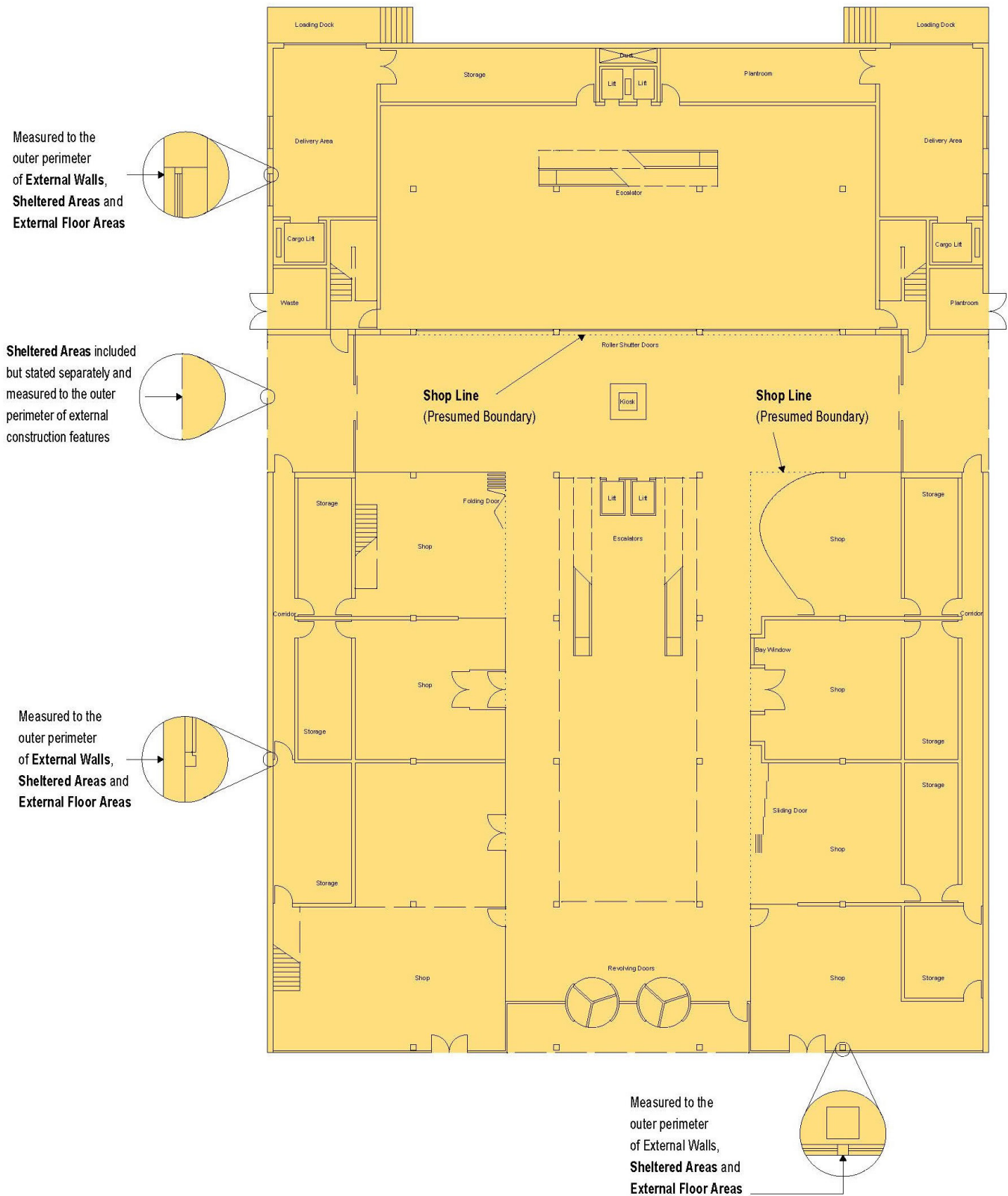


Diagram 4: IPMS 1 – Retail (mall level 0)

Diagram 5 shows the retail mall level 1 as a **Building**.

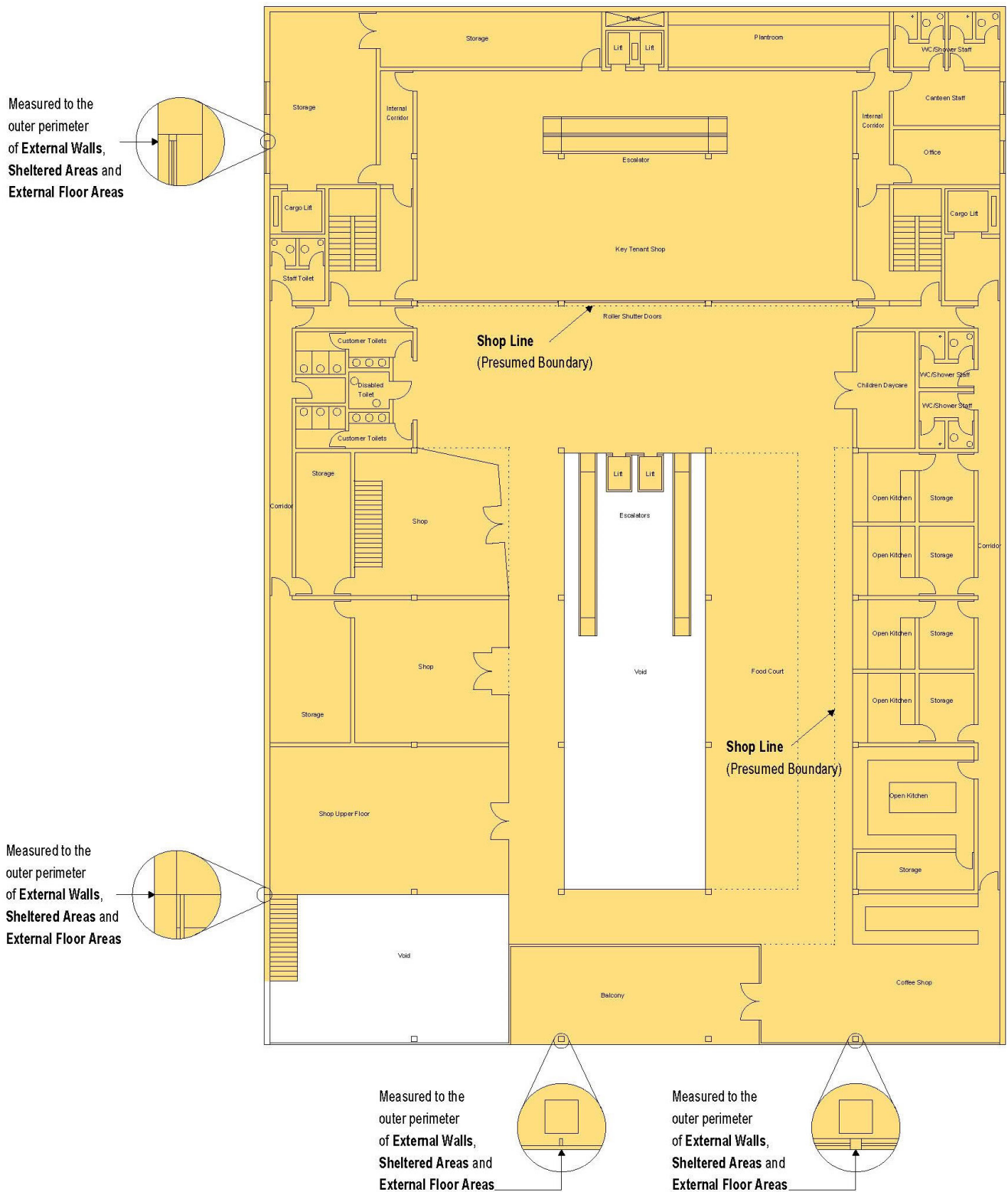
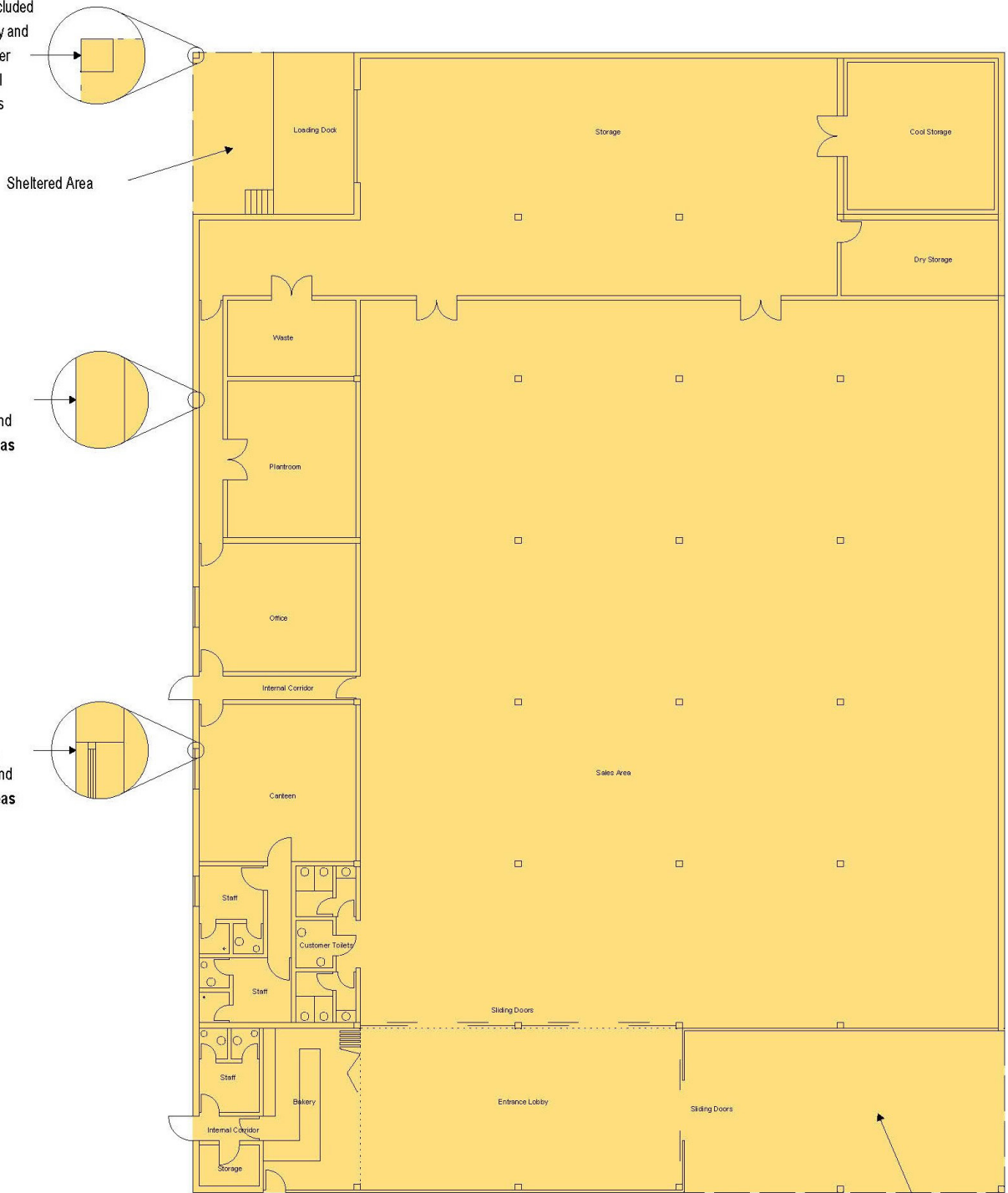


Diagram 5: IPMS 1 – Retail (mall level 1)

Diagram 6 shows a retail freestanding Building.

Sheltered Areas included but stated separately and measured to the outer perimeter of external construction features



Sheltered Area included but stated separately

Diagram 6: IPMS 1 – Retail (freestanding Building)

Diagram 7 shows a retail strip centre treated as a **Building**.



Diagram 7: IPMS 1 – Retail (strip centre)

3.2 IPMS 2 – Retail

3.2.1 Use

IPMS 2 – Retail is a whole **Building** measurement that is used for measuring the interior boundary area of a **Building**. The primary intended use is for providing data on the use of space and for benchmarking.

IPMS 2 – Retail enables **Users, Third Parties** and **Service Providers** to make direct floor space comparisons between data derived from different market practices.

3.2.2 Definition

IPMS 2 – Retail: The total of the areas of each floor level of a **Building** measured to the **IDF** of all **External Walls** and **External Floor Area** on each level.

Measurement practice:

All areas in a **Retail Building**, including for example storage, are to be measured in accordance with **IPMS 2 – Retail**. **External Floor Areas** and **Mezzanines** are to be measured to the inner face of the **Balustrade**, but not beyond the outside edge of the floor construction. If required **IPMS 2 – Retail** may be reported on a **Component-by-Component** basis for each floor of a **Building**.

Inclusions:

IPMS 2 – Retail includes all internal areas, including **Internal Walls** and **Pillars**. Enclosed void areas such as atria are only included at their lowest floor level.

Measurements included but to be stated separately:

External Floor Areas, internal **Loading Bays**, **Mezzanines** and enclosed walkways or passages between separate **Buildings**, available for direct or indirect use, are included but the measurement of each must be stated separately.

Measurements excluded but to be stated separately if measured:

Areas outside the **External Wall** such as **Sheltered Areas** and external **Loading Bays** do not have to be measured, but if they are measured these areas should be stated individually and separately. **Sheltered Areas** are to be measured to the **Finished Surface** of any **Walls** and otherwise to the outer perimeter of the **Covered Area**.

3.2.3 Summary

Included	Included but stated separately	Excluded but stated separately if measured
<ul style="list-style-type: none"> Areas within the IDF includes internal Walls and Pillars. 	<ul style="list-style-type: none"> Internal Loading Bays. 	<ul style="list-style-type: none"> Areas outside the External Wall other than areas that are defined as being within the Shop Line (Presumed Boundary).
<ul style="list-style-type: none"> Areas such as atria or similar are only measured and included at their lowest level. 	<ul style="list-style-type: none"> Internal Mezzanines. 	<ul style="list-style-type: none"> Sheltered Areas.
	<ul style="list-style-type: none"> Enclosed passageways between separate Buildings. 	
	<ul style="list-style-type: none"> External Floor Area(s) measured to the inner face of the Balustrade but never to exceed the outside edge of the floor construction. 	

Diagram 8 shows by red lines the extent of **IPMS 2 – Retail** measurements.

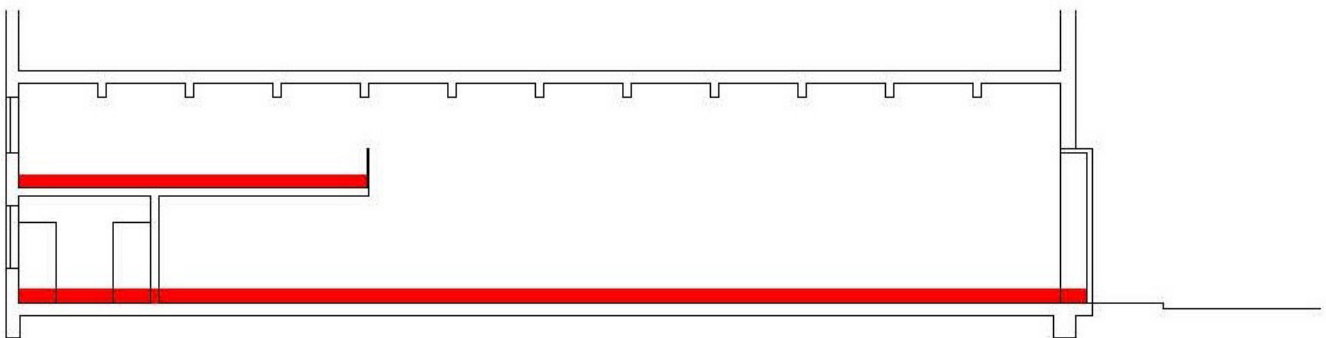


Diagram 8: IPMS 2 – Retail (unit cross section)

Diagram 9 shows the extent of **IPMS 2 – Retail** at level 0, when the development of four retail units is treated as a **Building**.

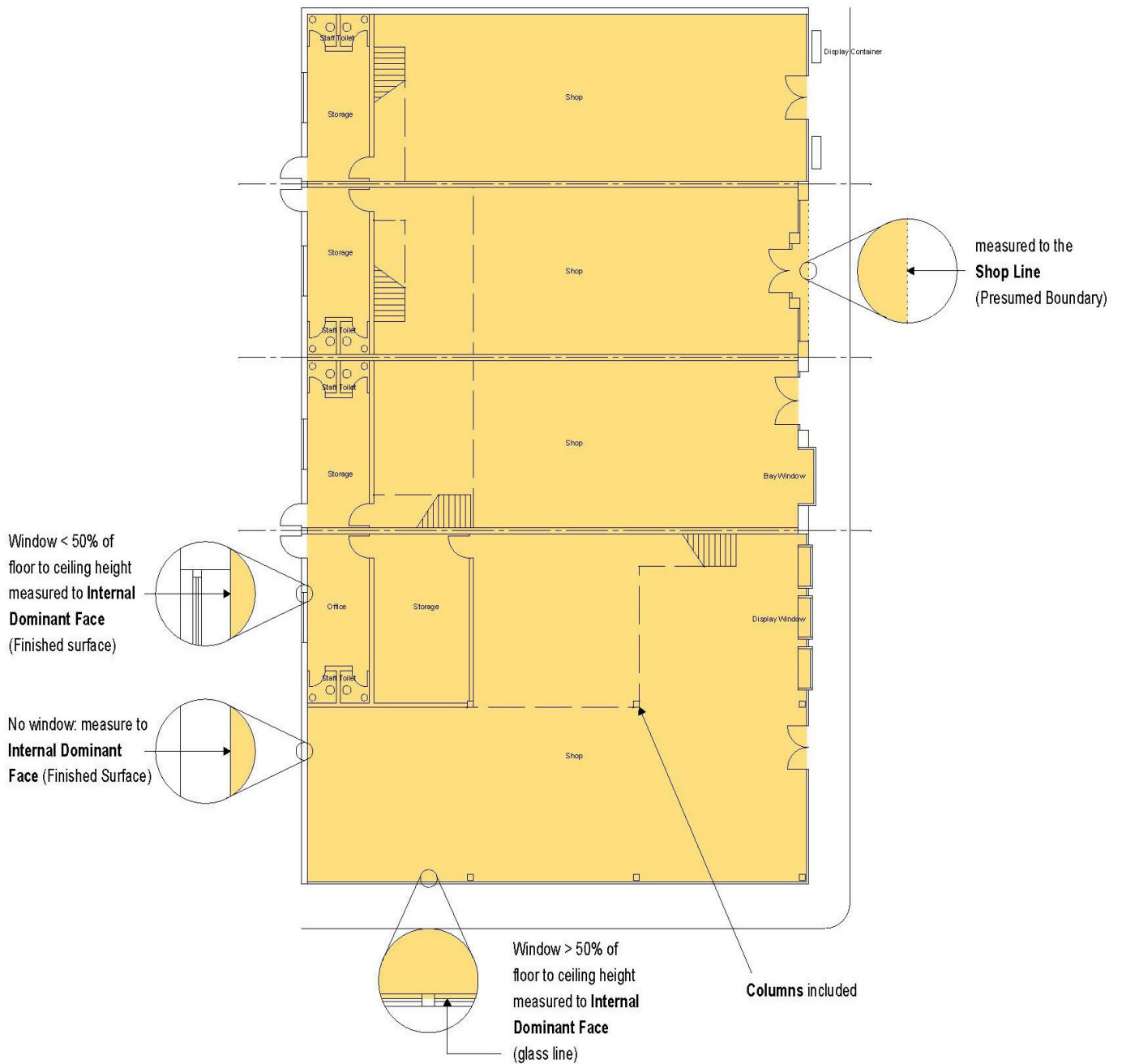


Diagram 9: IPMS 2 – Retail (units at level 0)

Diagram 10 shows the extent of IPMS 2 – Retail at Mezzanine level, when the development of four retail units is treated as a Building.

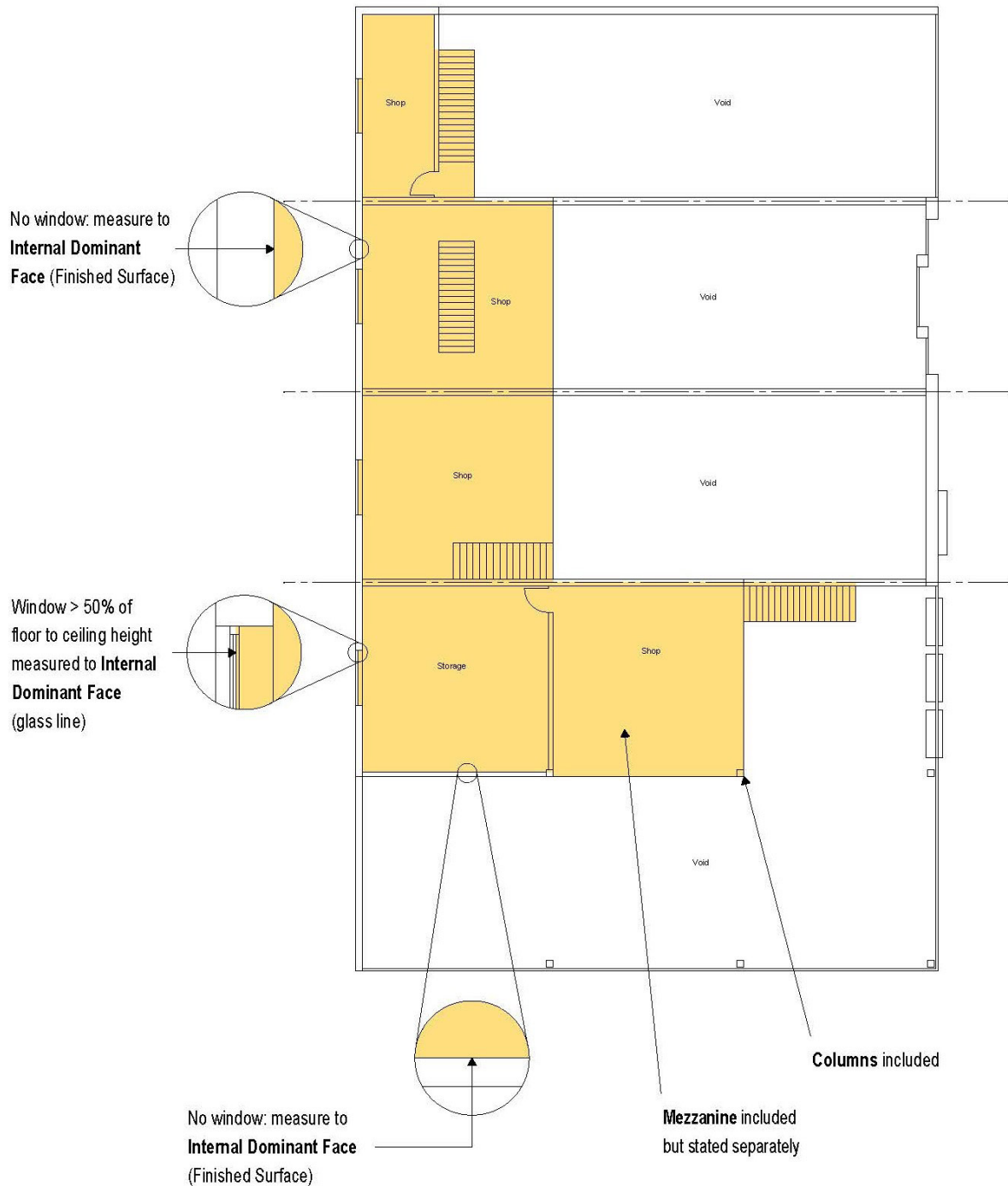


Diagram 10: IPMS 2 – Retail (units at Mezzanine level)

Diagram 11 shows the retail mall level 0 as a **Building**.

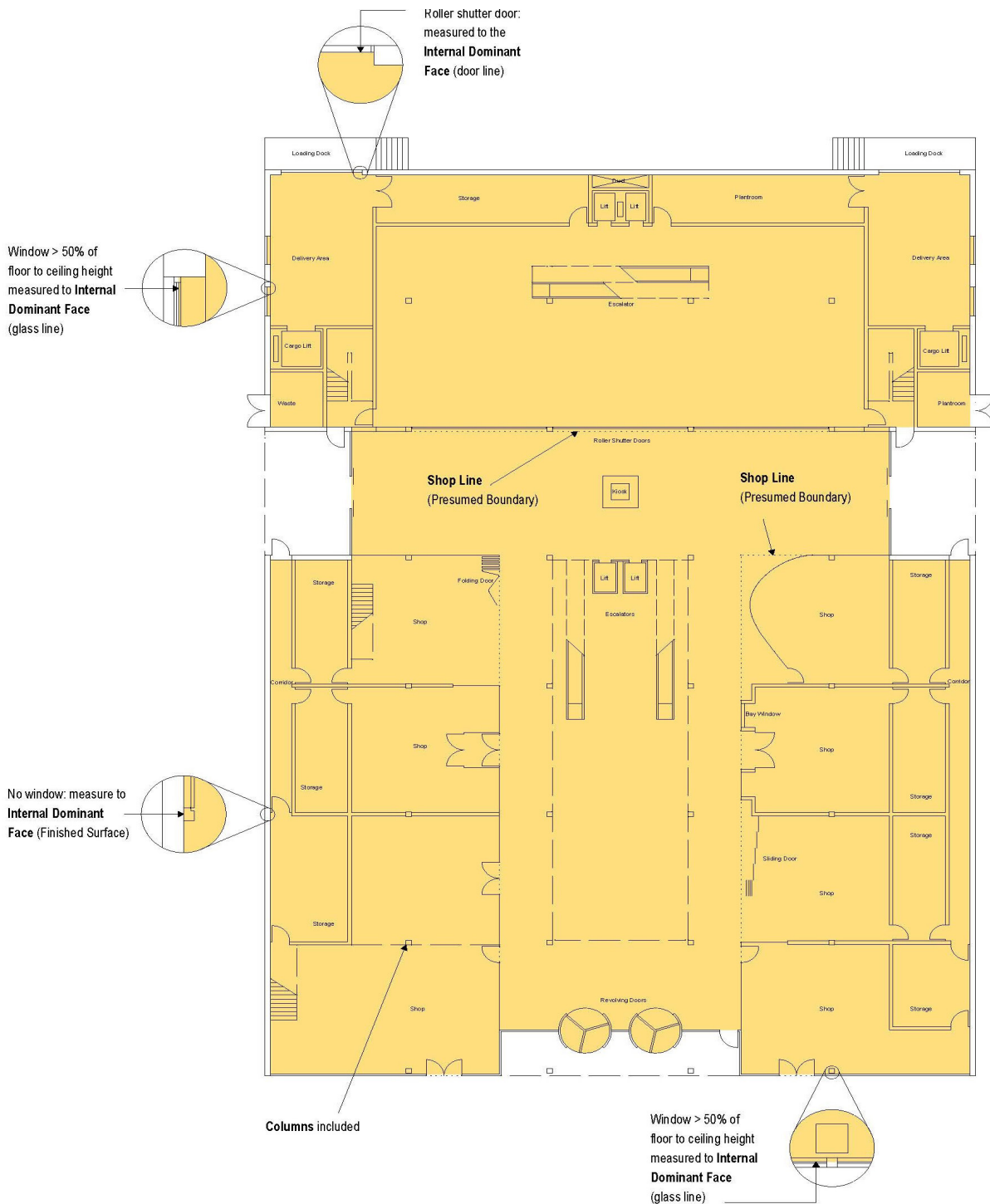


Diagram 11: IPMS 2 – Retail (mall at level 0)

Diagram 12 shows the retail mall level 1 as a **Building**.

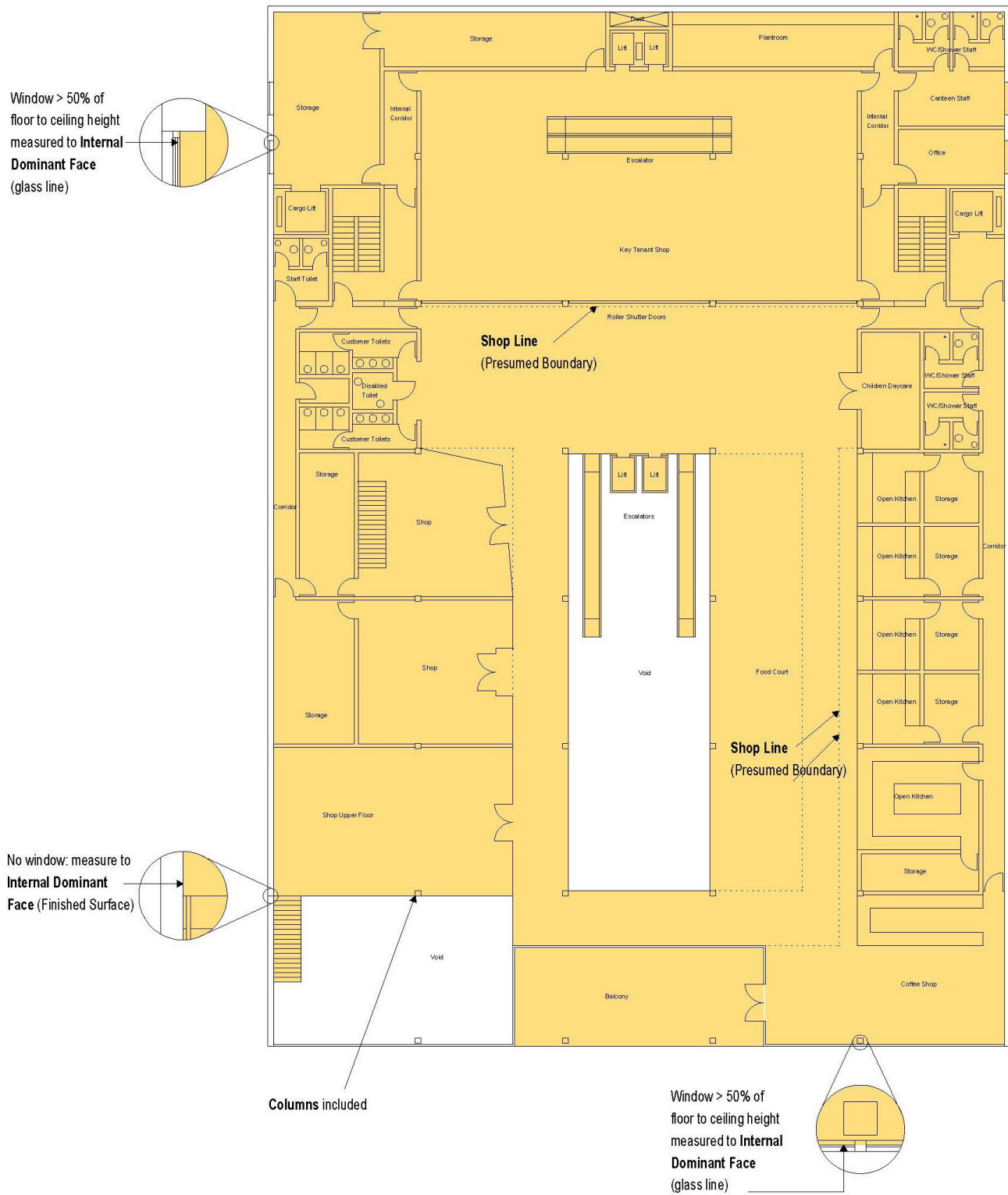


Diagram 12: IPMS 2 – Retail (mall at level 1)

Diagram 13 shows a retail freestanding building treated as a **Building**.

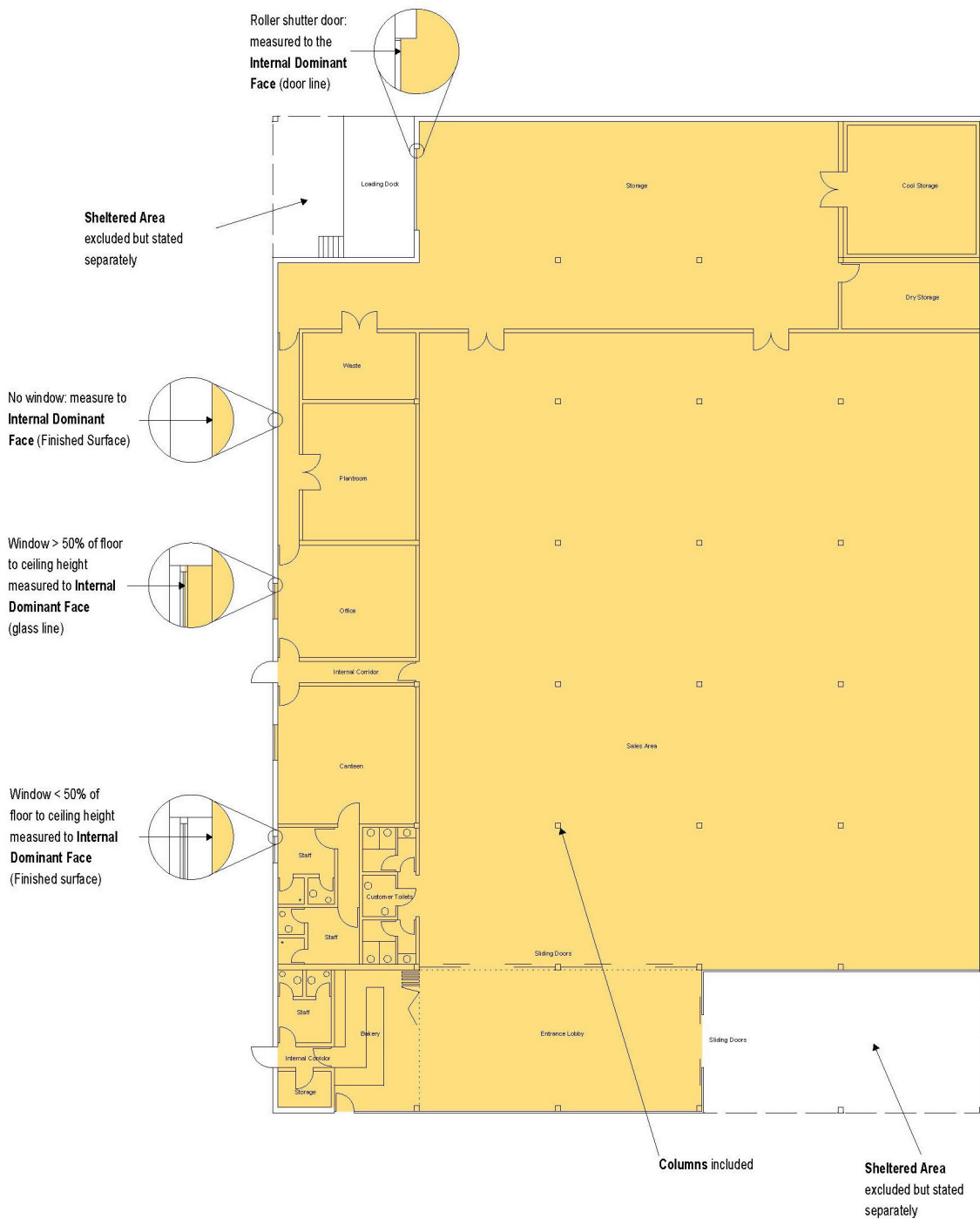


Diagram 13: IPMS 2 – Retail (freestanding Building)

3.3 IPMS 3 – Retail

3.3.1 Use

IPMS 3A – Retail, **IPMS 3B – Retail** and **IPMS 3C – Retail** are used for measuring the occupation of **Floor Area(s)** in exclusive use. They are not directly related to **IPMS 1** or **IPMS 2 – Retail**.

The **SSC** has researched international property markets and identified different measurement bases that need to be accommodated for transaction or cost allocation purposes. Some markets require only one of these measurement bases for transactional purposes, that being the primary intended use for **IPMS 3**. Other markets may use **IPMS 3A – Retail**, **IPMS 3B – Retail** or **IPMS 3C – Retail** depending on the purpose.

Service Providers must not simply state that a measurement is in accordance with **IPMS 3 – Retail**. The reference must state whether the measurement is **IPMS 3A – Retail**, **IPMS 3B – Retail** or **IPMS 3C – Retail**.

Each retail unit in a multi-occupied **Building** must be measured separately but, if consistent, the total area of all relevant units may be reported as an aggregate of **IPMS 3A – Retail**, **IPMS 3B – Retail** or **IPMS 3C – Retail**.

3.3.2 IPMS 3A – Retail definition

IPMS 3A – Retail: The area in exclusive occupation, including the **Floor Area** occupied by **External Walls**, **Internal Walls** and **Pillars**, including any **External Floor Area(s)**, **Sheltered Area(s)** and **Ancillary Area(s)**.

Measurement practice:

The area of exclusive occupancy is measured adopting the following hierarchy to:

- the centre-line of shared **Walls** between occupants and/or
- the **Shop Line (Presumed Boundary)** and/or
- the outside face of the **External Walls** and otherwise
- to the **Finished Surface**.

A **Shop Line (Presumed Boundary)** may not exist everywhere and relates to the legally accessible part of the shop or retail unit, not to its enclosure. Where there is no **Shop Line (Presumed Boundary)**, measurements are to be taken to the physical shop front.

The **Floor Area** occupied by stairs is only to be included at the lower level. For clarification, the principle detailed in Item 5 in Section 2.1 is to be applied: '**Buildings** are to be measured individually and reported on a floor-by-floor basis as existing or proposed at the time of measurement'. Hence, when measuring floor by floor there are only two levels to be considered for each stair: the lower level and the upper level of the stair.

The stair is measured on the lower level but not the upper level. Any landings, unless they are used to provide separate access to other **Rooms**, are deemed to be part of the stairs.

A vertical penetration whose floor opening and surrounding **Walls**, if any, is less than 0.1m² (1 ft²) is not separately identified and is included in the **Floor Area** measurement of **IPMS 3A – Retail**.

Measurements included but stated separately:

Ancillary Area(s), **External Floor Area(s)** and permanent **Mezzanines** are included in **IPMS 3A – Retail** and are to be measured to the outer face of the **Balustrade** but never to exceed the outside edge of the floor.

Measurements excluded but stated separately if measured:

Measurement for **IPMS 3A – Retail** does not include the following areas, which are to be measured consistently with the **IPMS 3A – Retail** measurement hierarchy:

- **Temporary Structures.**

3.3.3 IPMS 3A – Retail summary

Included	Included but stated separately	Excluded but stated separately if measured
<ul style="list-style-type: none"> • Exclusive occupancy of retail area – measured to External Wall(s) consistent with IPMS 1. 	<ul style="list-style-type: none"> • External Floor Area(s). 	<ul style="list-style-type: none"> • Temporary Structures.
	<ul style="list-style-type: none"> • Mezzanines (excluding Temporary Structures). 	
	<ul style="list-style-type: none"> • Ancillary Area(s). 	

Diagram 15 shows four units at level 0 measured individually.

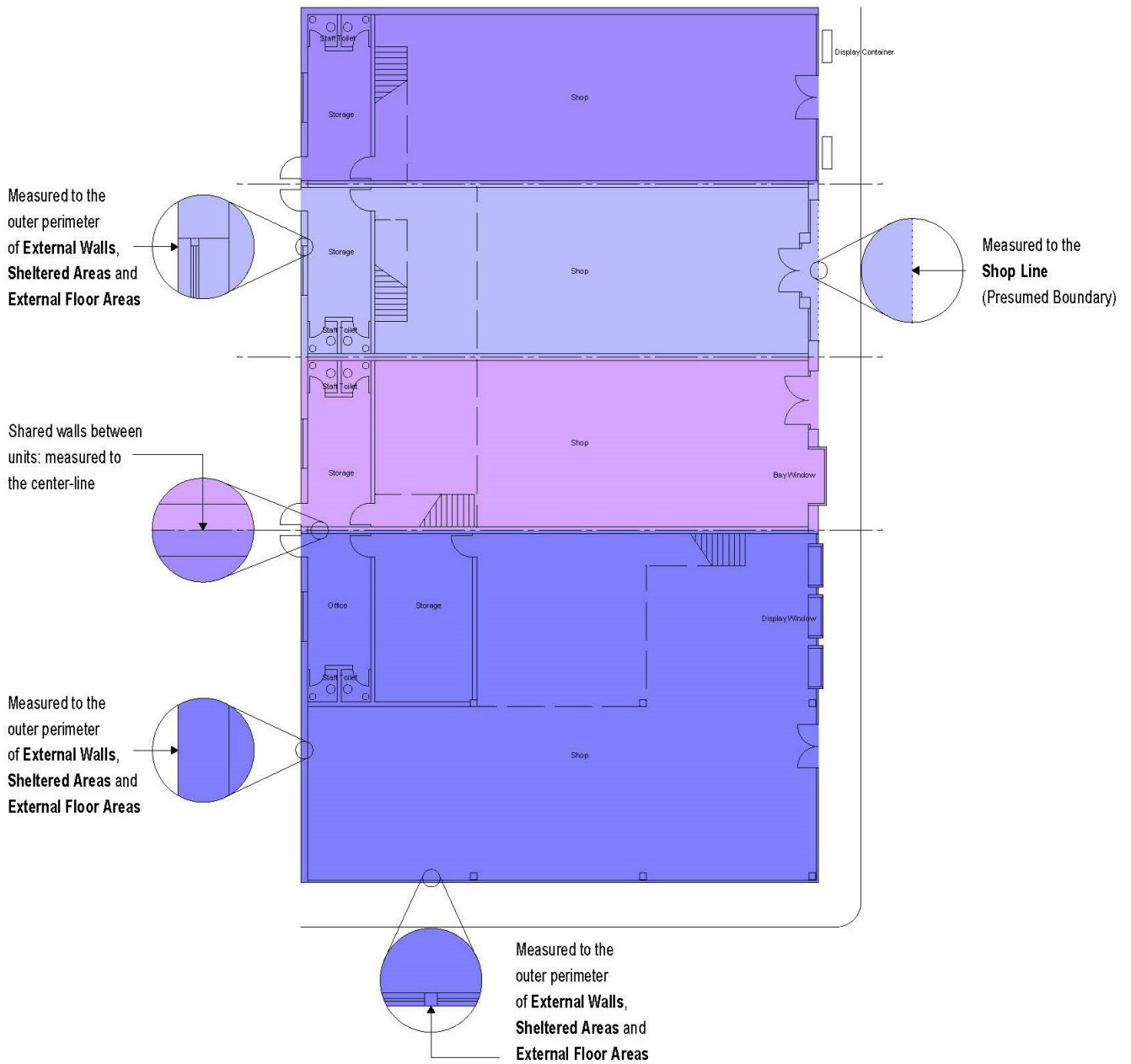


Diagram 15: IPMS 3A – Retail (four separate units level 0)

Diagram 16 shows the extent of IPMS 3A – Retail at Mezzanine level, when the development of four units in one Building measured individually.

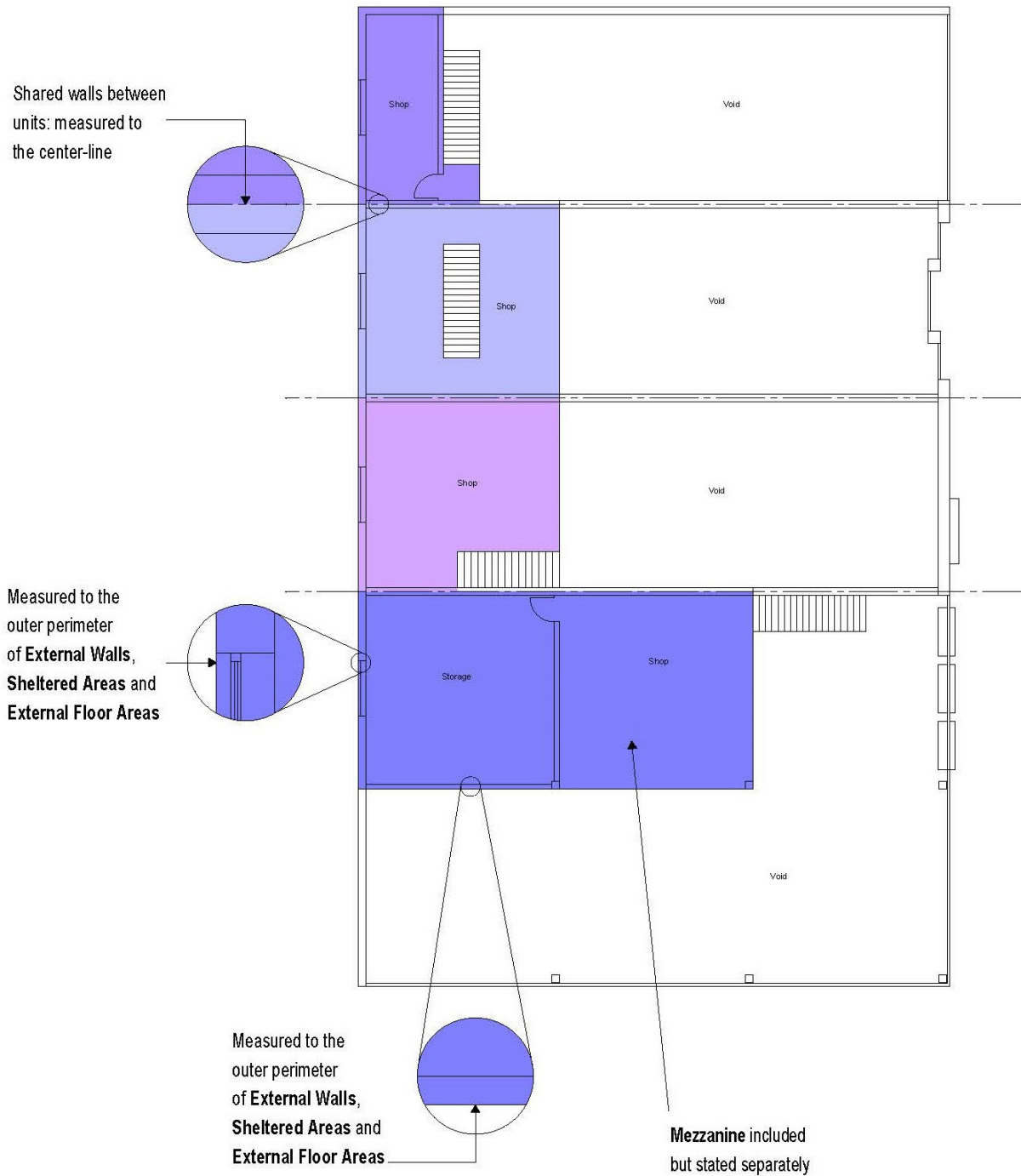


Diagram 16: IPMS 3A – Retail (four units at Mezzanine level)

Diagram 17 shows the retail mall level 0 divided into exclusive use.

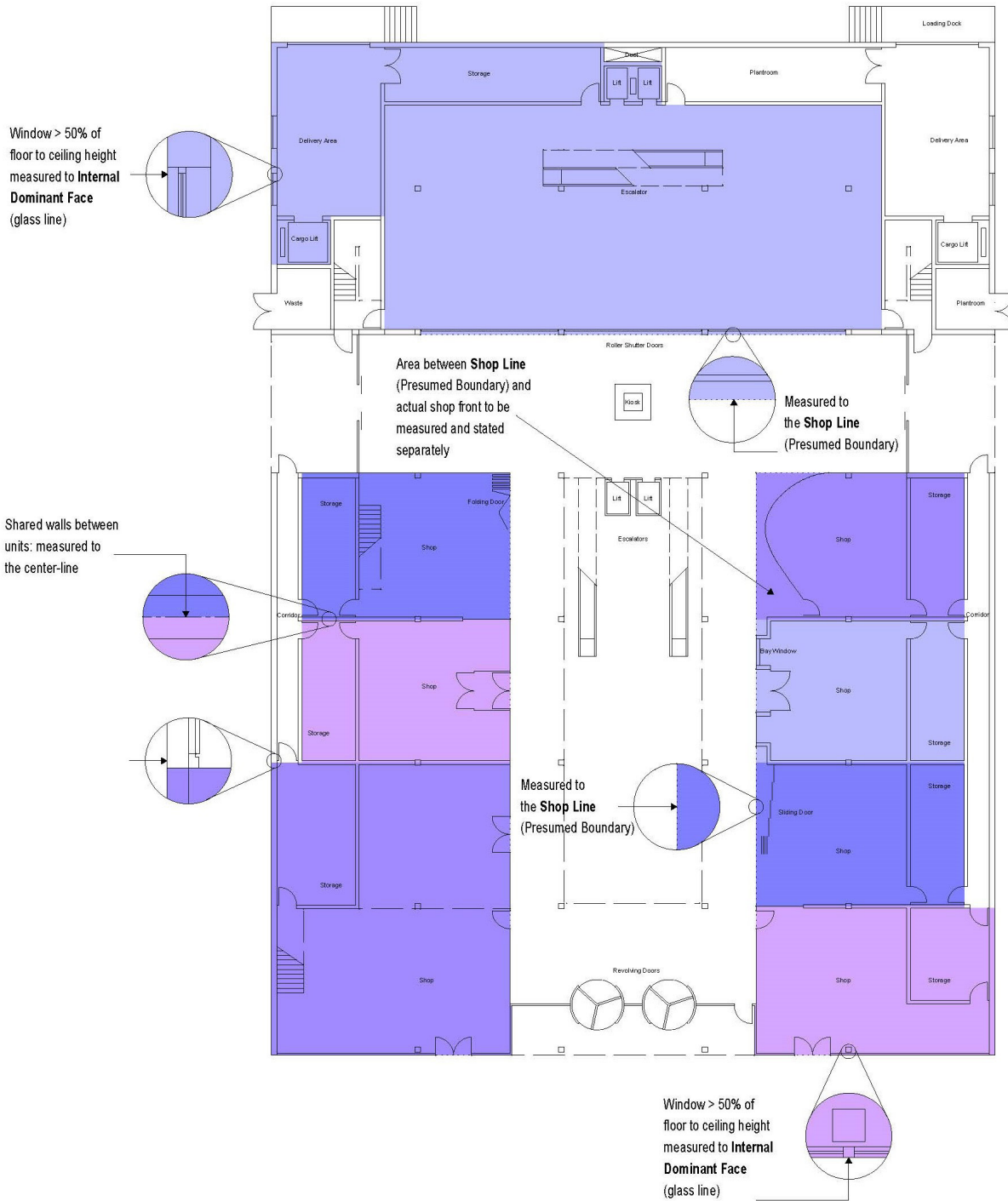


Diagram 17: IPMS 3A – Retail (mall at level 0)

Diagram 18 shows the retail mall level 1 divided into exclusive use.

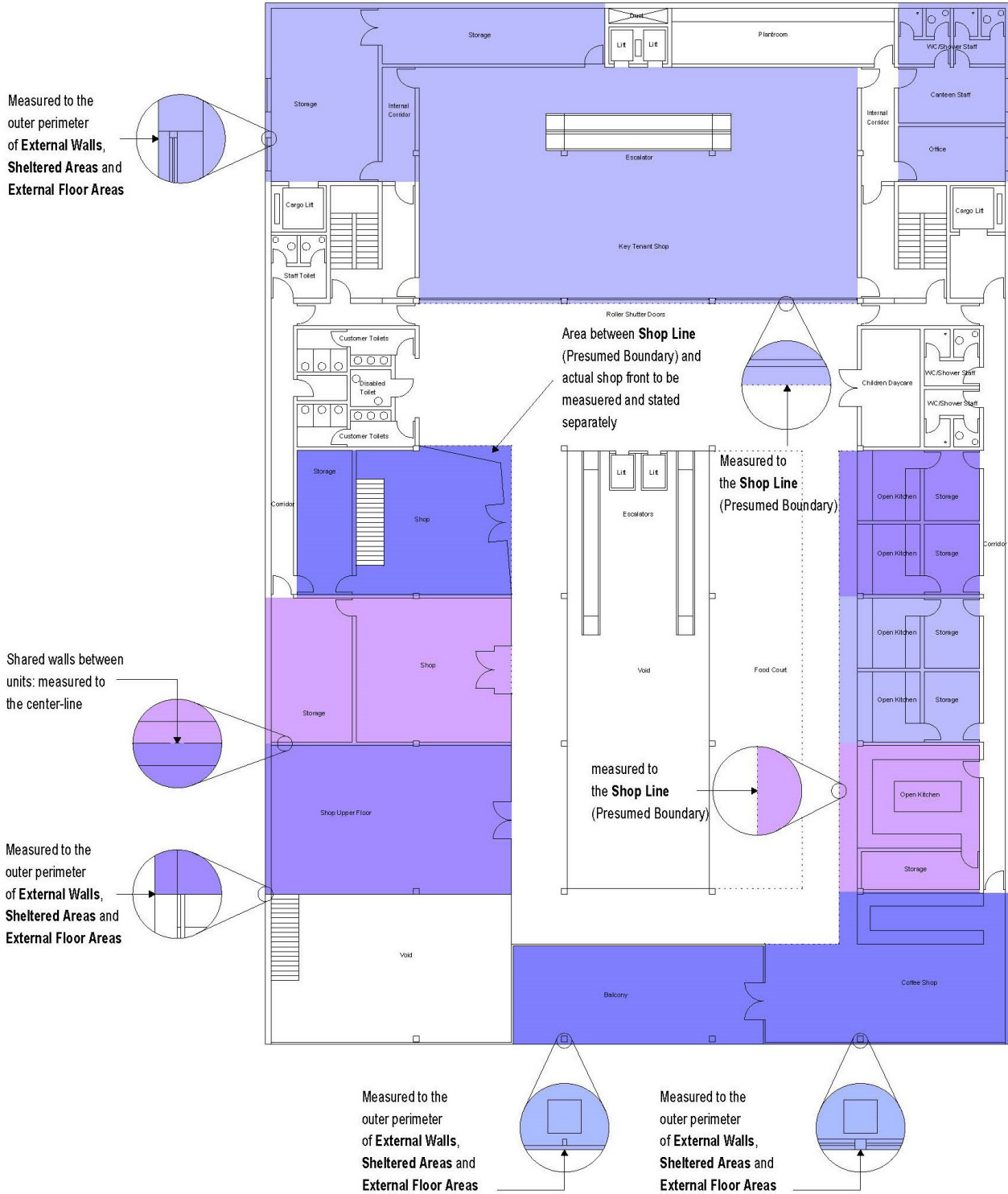


Diagram 18: IPMS 3A – Retail (mall at level 1)

Diagram 19 shows a retail freestanding **Building** in exclusive use.

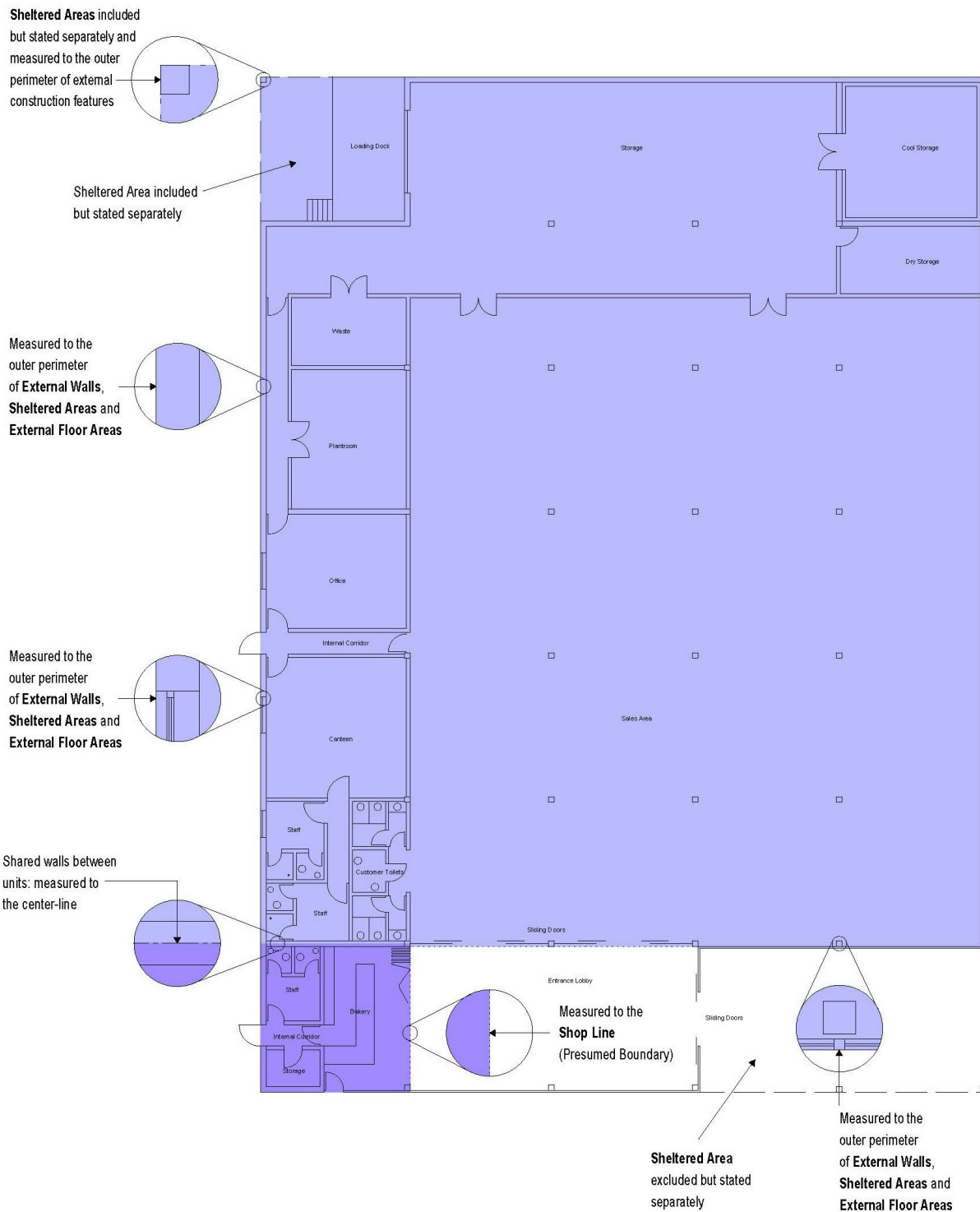


Diagram 19: IPMS 3A – Retail (freestanding building)

Diagram 20 shows a retail strip centre divided into exclusive use.



Diagram 20: IPMS 3A – Retail (strip centre)

3.3.4 IPMS 3B – Retail definition

IPMS 3B – Retail: The area in exclusive occupation, including the **Floor Area** occupied by **Internal Walls** and **Pillars** (and may include **External Floor Area(s)** and **Ancillary Area(s)**).

Measurement practice:

The area of exclusive occupancy is measured adopting the following hierarchy to:

- the centre-line of shared **Walls** between occupants and/or
- the **Shop Line (Presumed Boundary)** and/or
- the **Internal Dominant Face** for all **External Walls** and otherwise
- to the **Finished Surface**.

A **Shop Line (Presumed Boundary)** may not exist everywhere and relates to the legally accessible part of the shop or retail unit, not to its enclosure. Where there is no **Shop Line (Presumed Boundary)**, measurements are to be taken to the internal face of the shop front.

The **Floor Area** occupied by stairs is only to be included at the lower level. For clarification, the principle detailed in Item 5 in Section 2.1 is to be applied: '**Buildings** are to be measured individually and reported on a floor-by-floor basis as existing or proposed at the time of measurement'. Hence, when measuring floor by floor there are only two levels to be considered for each stair: the lower level and the upper level of the stair. The stair is measured on the lower level but not the upper level. Any landings, unless they are used to provide separate access to other **Rooms**, are deemed to be part of the stairs.

A vertical penetration whose floor opening and surrounding **Walls**, if any, is less than 0.1m² (1 ft²) is not separately identified and is included in the **Floor Area** measurement of **IPMS 3B – Retail**.

Measurements included but stated separately:

Ancillary Area(s), **External Floor Area(s)** and permanent **Mezzanines** are included in **IPMS 3B – Retail** and are to be measured to the inner face of the **Balustrade**, but never to exceed the outside edge of the floor.

Measurements excluded but stated separately if measured:

Measurement for **IPMS 3B – Retail** does not include the following areas, which are to be measured consistently with the **IPMS 3B – Retail** measurement hierarchy:

- **Temporary Mezzanines**.
- **Sheltered Areas**.

3.3.5 IPMS 3B – Retail summary

Included	Included but stated separately	Excluded but stated separately if measured
<ul style="list-style-type: none"> Exclusive occupancy of retail area – measured to the IDF of External Wall(s) consistent with IPMS 2. 	<ul style="list-style-type: none"> External Floor Area(s). 	<ul style="list-style-type: none"> Temporary Structures.
	<ul style="list-style-type: none"> Mezzanines (excluding Temporary Structures). 	<ul style="list-style-type: none"> Sheltered Areas.
	<ul style="list-style-type: none"> Ancillary Area(s). 	

Diagram 21 shows four units at level 0 in one **Building** measured individually.

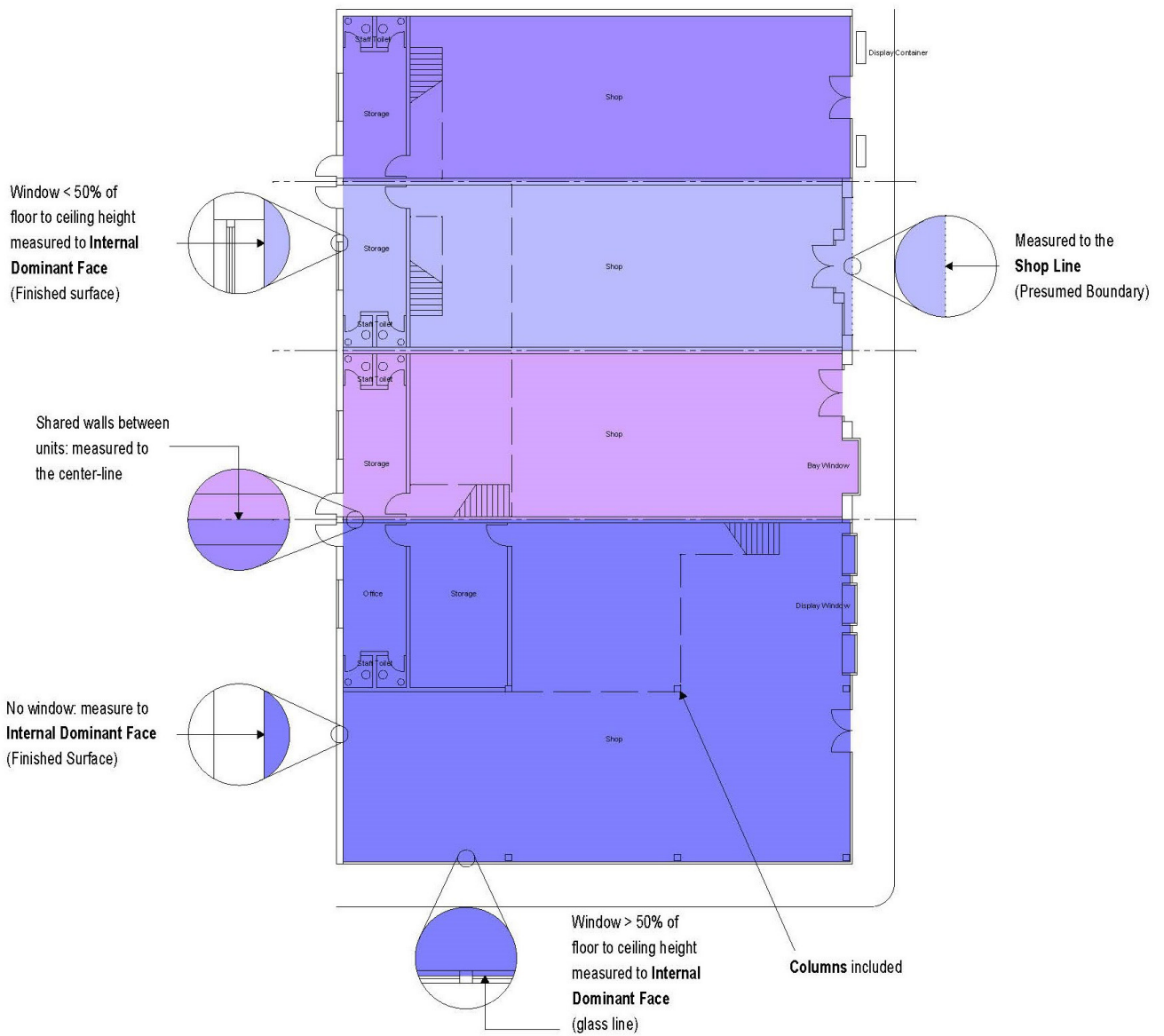


Diagram 21: IPMS 3B – Retail (four units at level 0)

Diagram 22 shows four units at **Mezzanine** level in one **Building** measured individually.

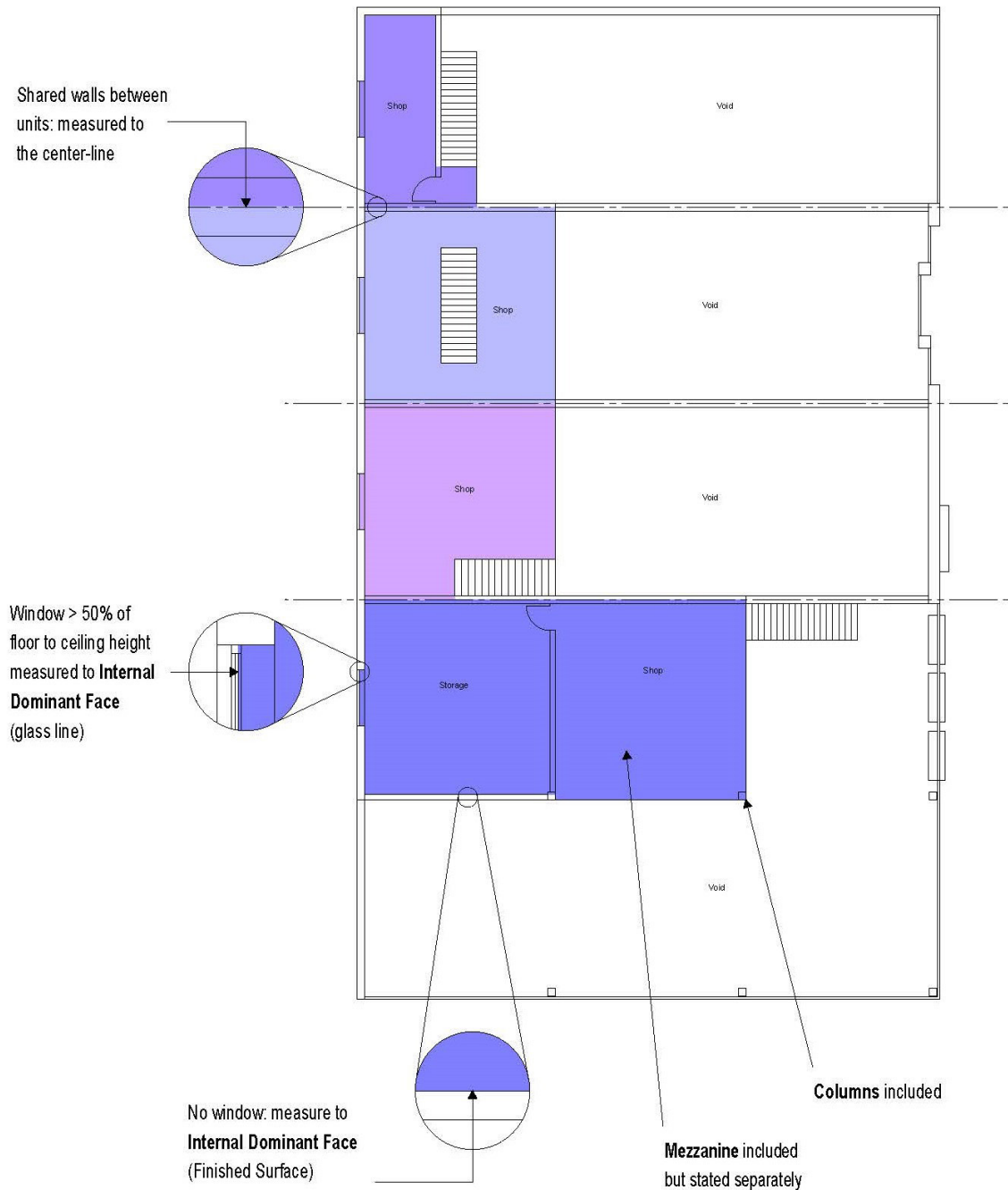


Diagram 22: IPMS 3B – Retail (four separate units at **Mezzanine** level)

Diagram 23 shows the retail mall level 0 divided into exclusive use.

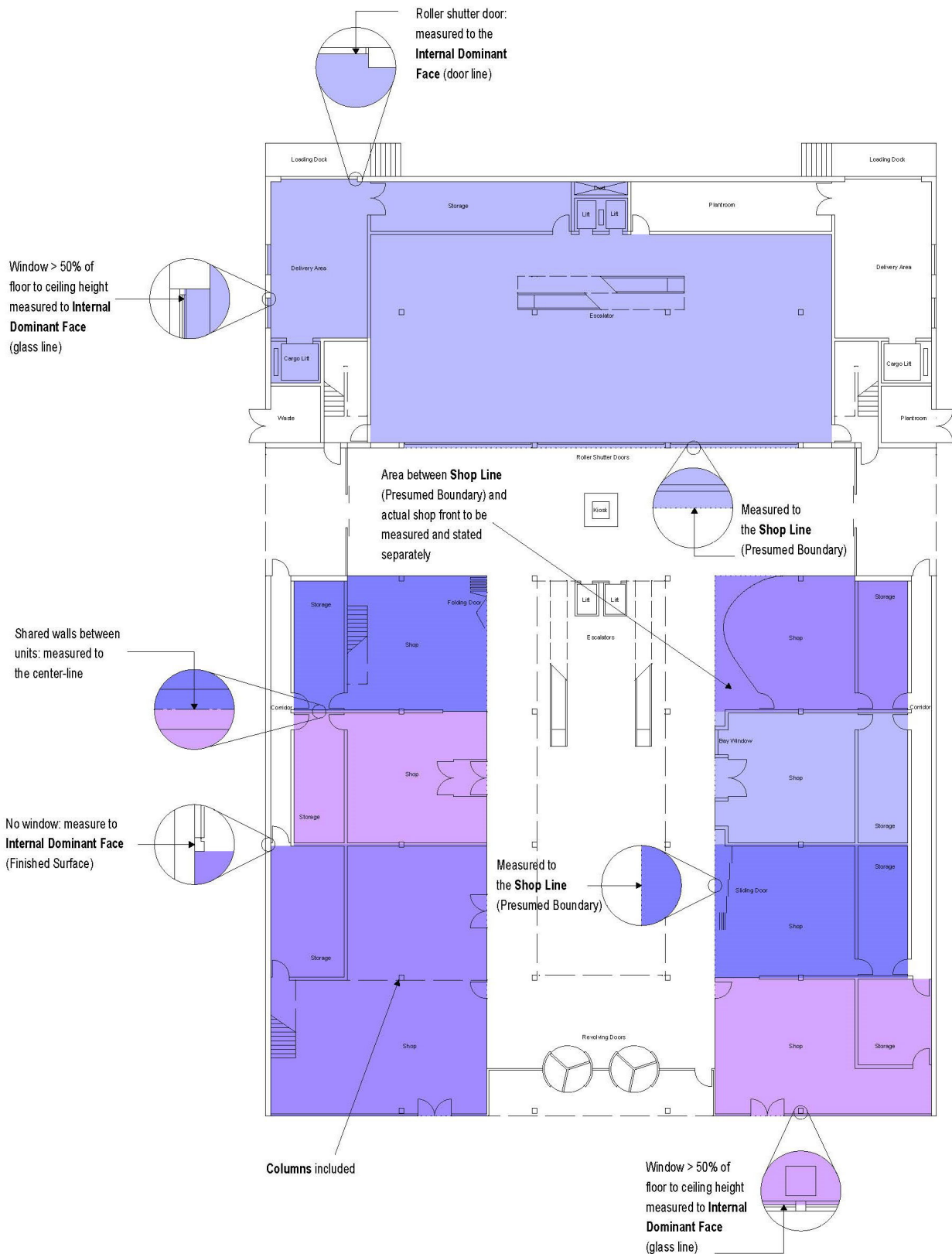


Diagram 23: IPMS 3B – Retail (mall level 0)

Diagram 24 shows the retail mall level 1 divided into exclusive use.

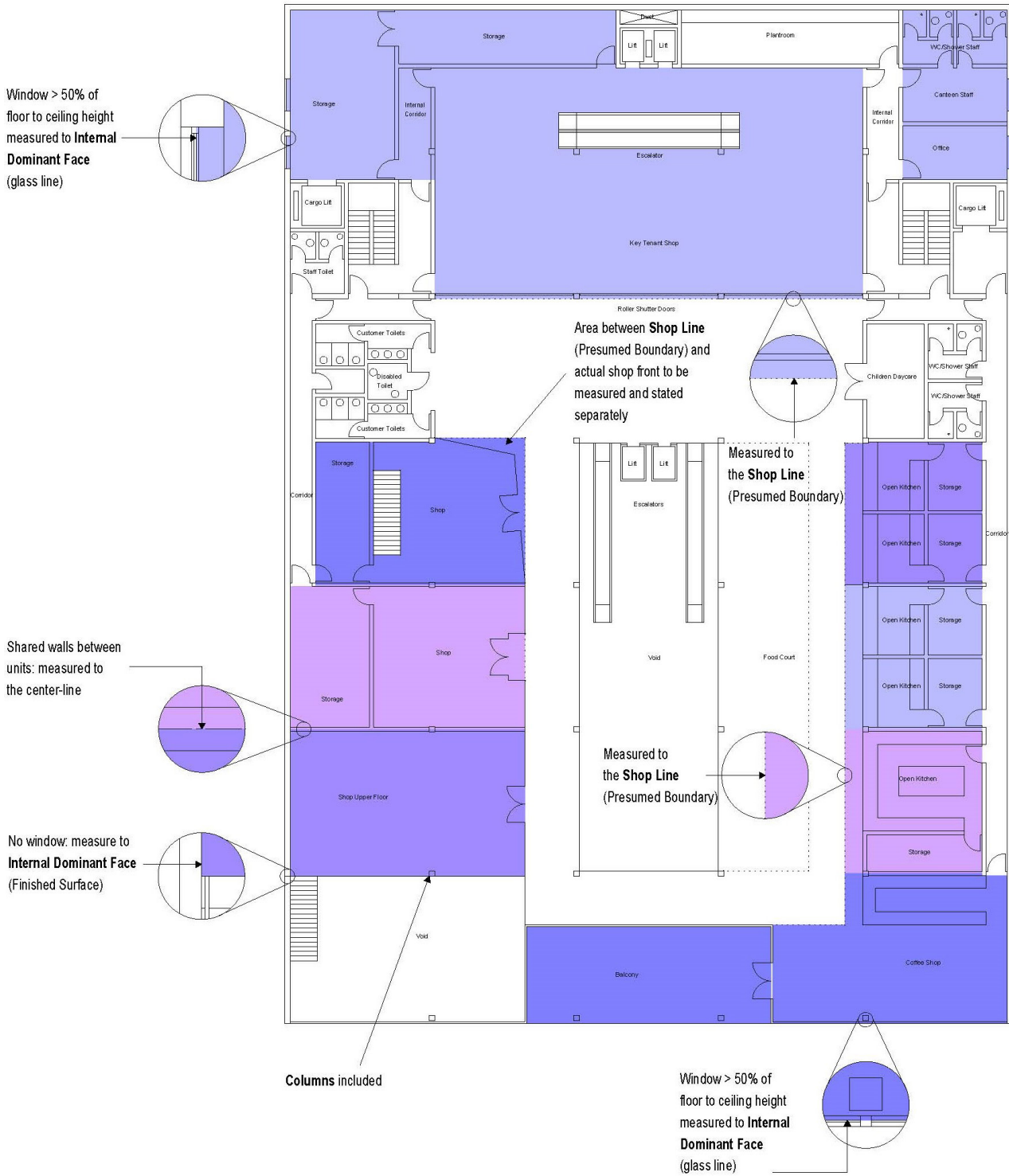


Diagram 24: IPMS 3B – Retail (mall level 1)

Diagram 25 shows a retail freestanding **Building** divided into exclusive use.

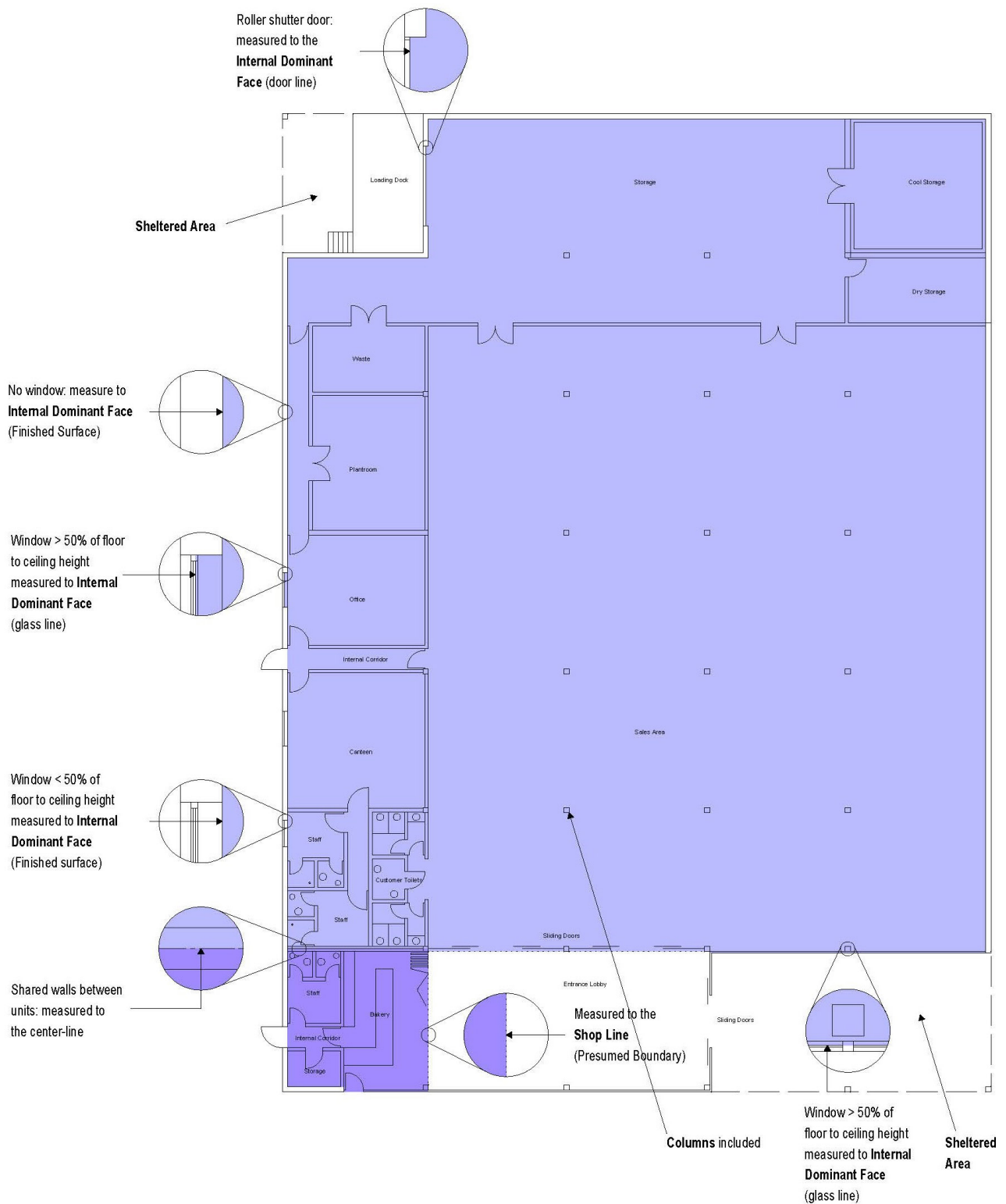


Diagram 25: IPMS 3B – Retail (freestanding building)

Diagram 26 shows a retail strip centre divided into exclusive use.

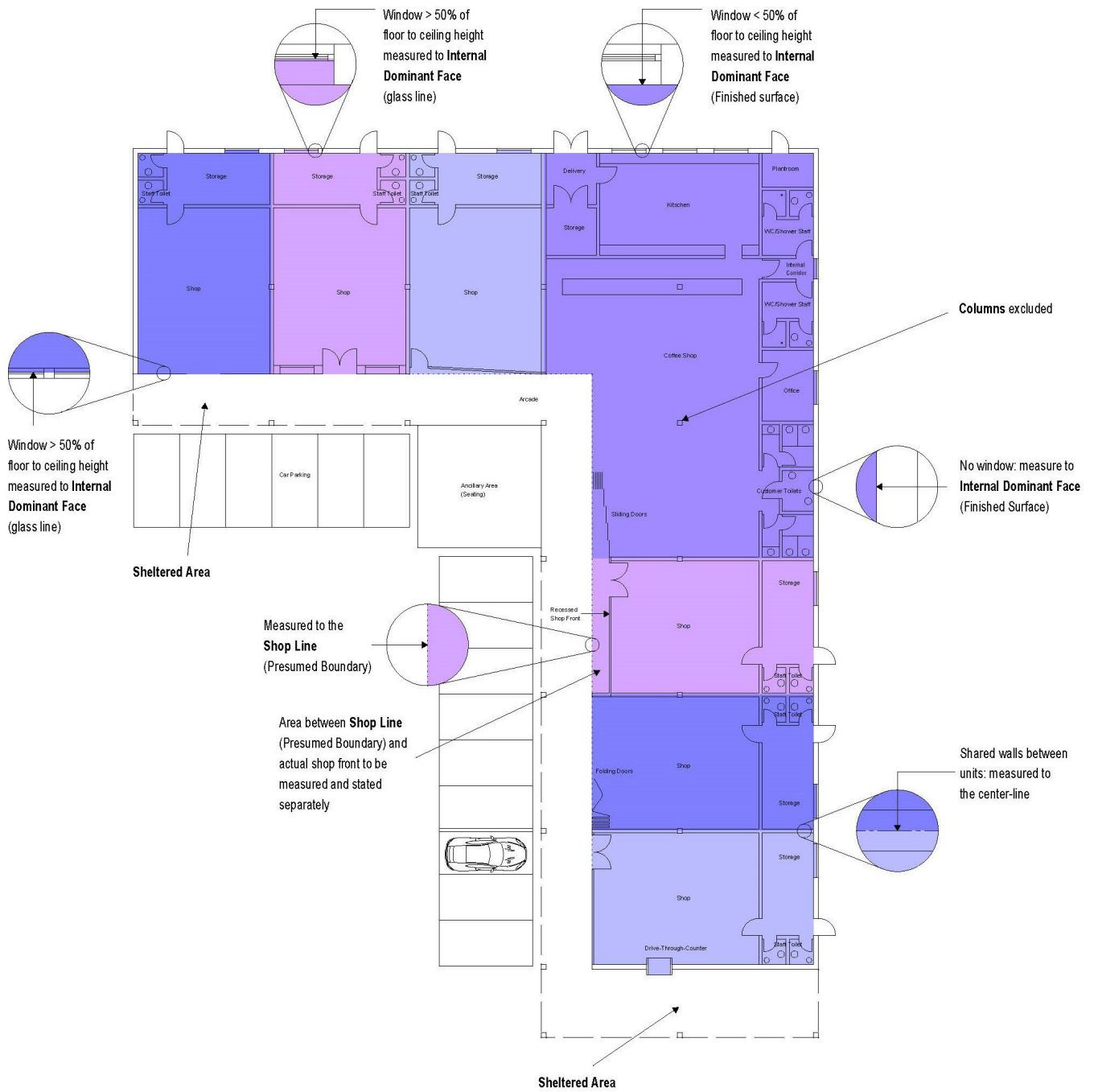


Diagram 26: IPMS 3B – Retail (strip centre)

3.3.6 IPMS 3C – Retail definition

IPMS 3C – Retail: The area in exclusive occupation excluding the **Floor Area** occupied by **External Walls, Internal Walls and Pillars**.

Measurement practice:

The area of exclusive occupancy pursuant to **IPMS 3C – Retail** is measured adopting the following hierarchy to:

- the **Finished Surface** of shared **Walls** between occupants and/or
- the **Shop Line (Presumed Boundary)** and/or
- the **Internal Dominant Face** for all **External Walls** and **External Floor Areas** and otherwise
- to the **Finished Surface**.

A **Shop Line (Presumed Boundary)** may not exist everywhere and relates to the legally accessible part of the shop or retail unit, not to its enclosure. Where there is no **Shop Line (Presumed Boundary)**, measurements are to be taken to the physical shop front.

The **Floor Area** occupied by stairs is only to be included at the lower level. For clarification, the principle detailed in Item 5 in Section 2.1 is to be applied: '**Buildings** are to be measured individually and reported on a floor-by-floor basis as existing or proposed at the time of measurement'. Hence, when measuring floor by floor there are only two levels to be considered for each stair: the lower level and the upper level of the stair. The stair is measured on the lower level but not the upper level. Any landings, unless they are used to provide separate access to other **Rooms**, are deemed to be part of the stairs.

A vertical penetration whose floor opening and surrounding **Walls**, if any, is less than 0.1m² (1 ft²) is not separately identified and is included in the **Floor Area** measurement of **IPMS 3C – Retail**.

Measurements included but stated separately:

Ancillary Area(s), External Floors Area(s) and permanent **Mezzanines** are included in **IPMS 3C – Retail** and are to be measured to the inner face of the **Balustrade**, but never to exceed the outside edge of the floor and shall be stated separately.

Measurements excluded but stated separately if measured:

Measurement for **IPMS 3C – Retail** does not include the following areas, which are to be measured consistently with the **IPMS 3C – Retail** measurement hierarchy:

- **Temporary Mezzanines**.

3.3.7 IPMS 3C – Retail summary

Included	Included but stated separately	Excluded but stated separately if measured
<ul style="list-style-type: none"> Exclusive occupancy of retail area – measured according to the heirarchy. 	<ul style="list-style-type: none"> External Floor Area(s). 	<ul style="list-style-type: none"> Temporary Structures.
	<ul style="list-style-type: none"> Mezzanines (excluding Temporary Structures). 	
	<ul style="list-style-type: none"> Ancillary Area(s). 	

Diagram 27 shows four units in one **Building** at level 0 measured individually.

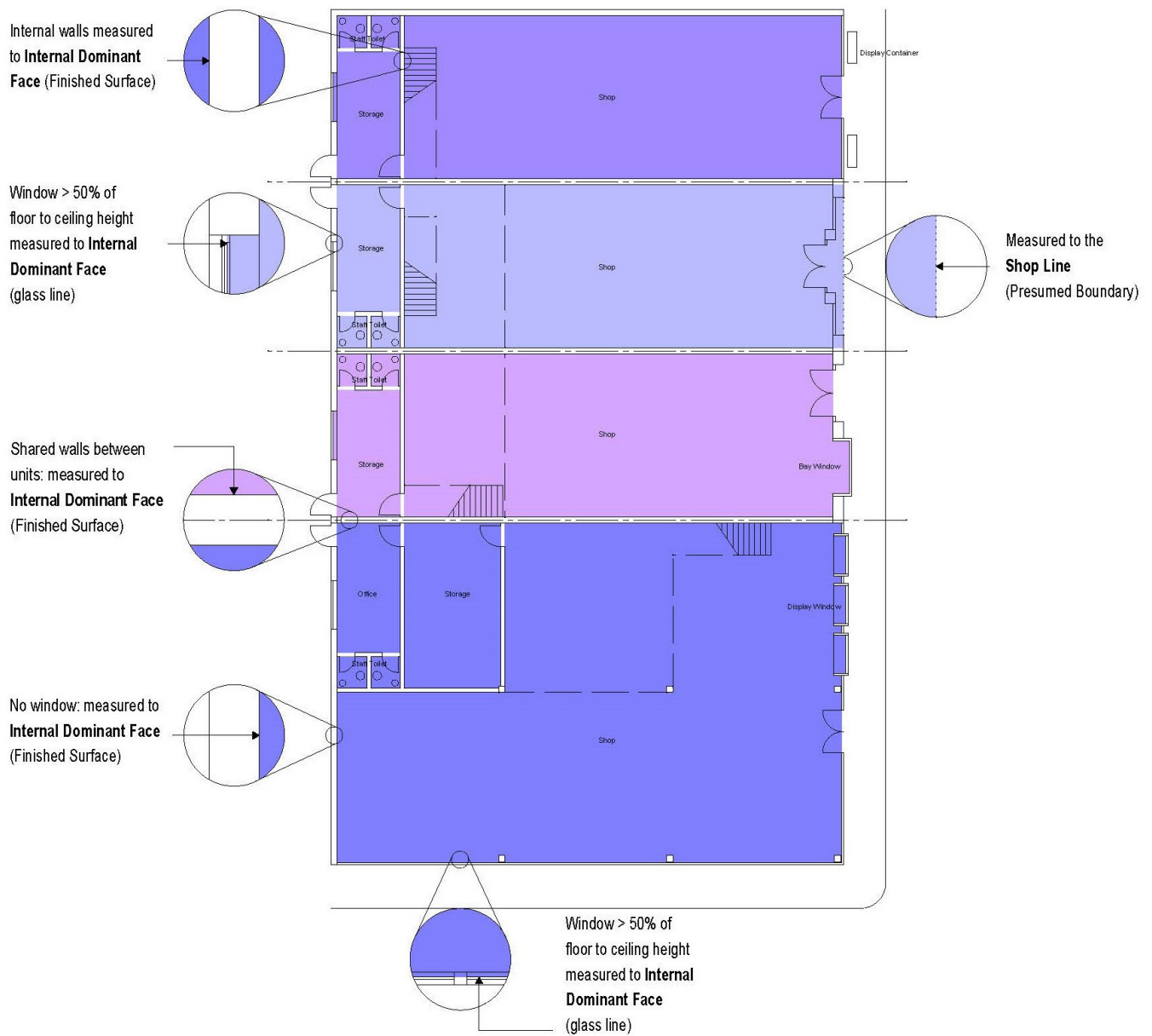


Diagram 27: IPMS 3C – Retail (four separate units at level 0)

Diagram 28 shows four units in one **Building** at **Mezzanine** level measured individually.

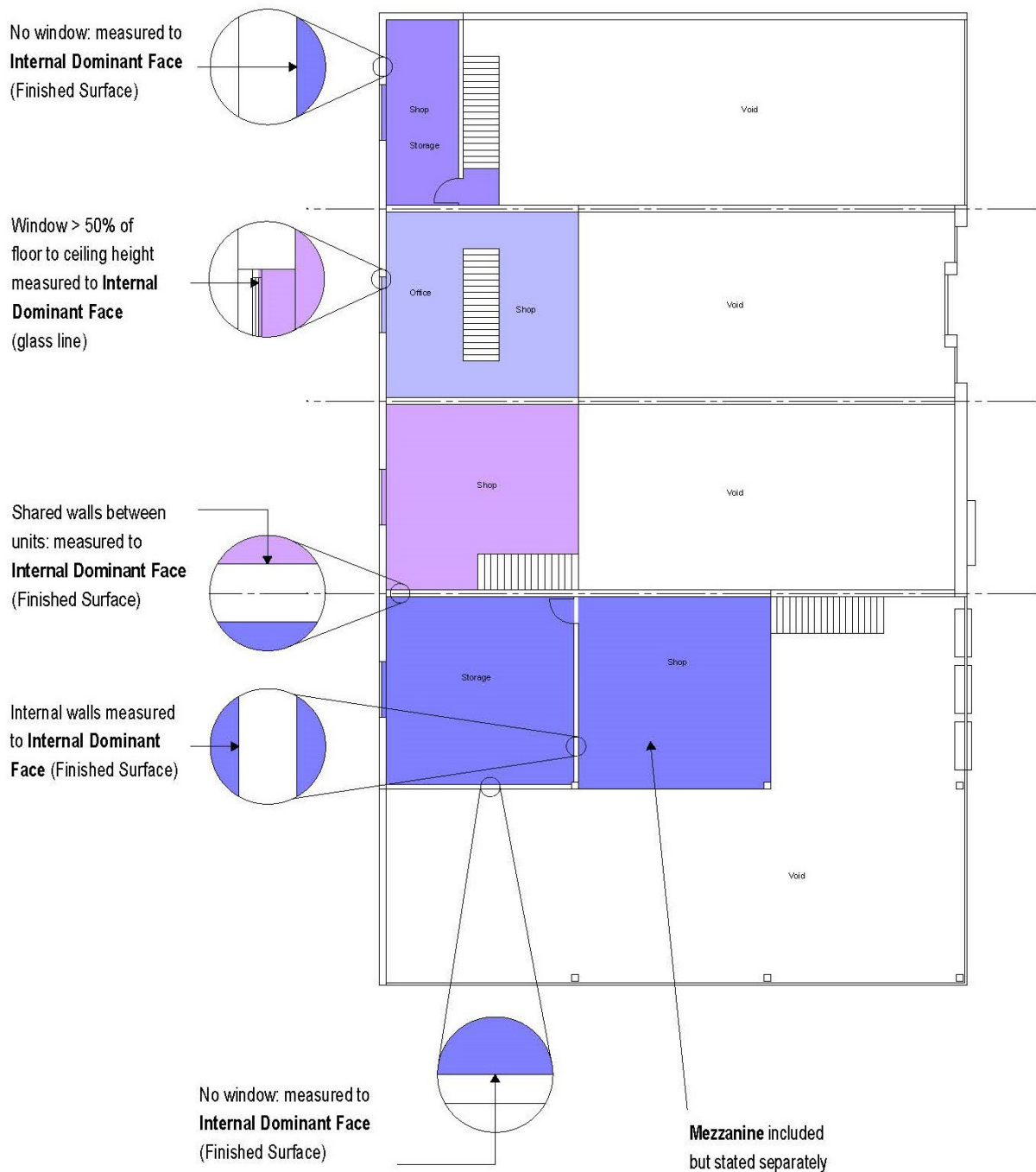


Diagram 28: IPMS 3C – Retail (four separate units at Mezzanine level)

Diagram 29 shows the retail mall level 0 divided into exclusive use.

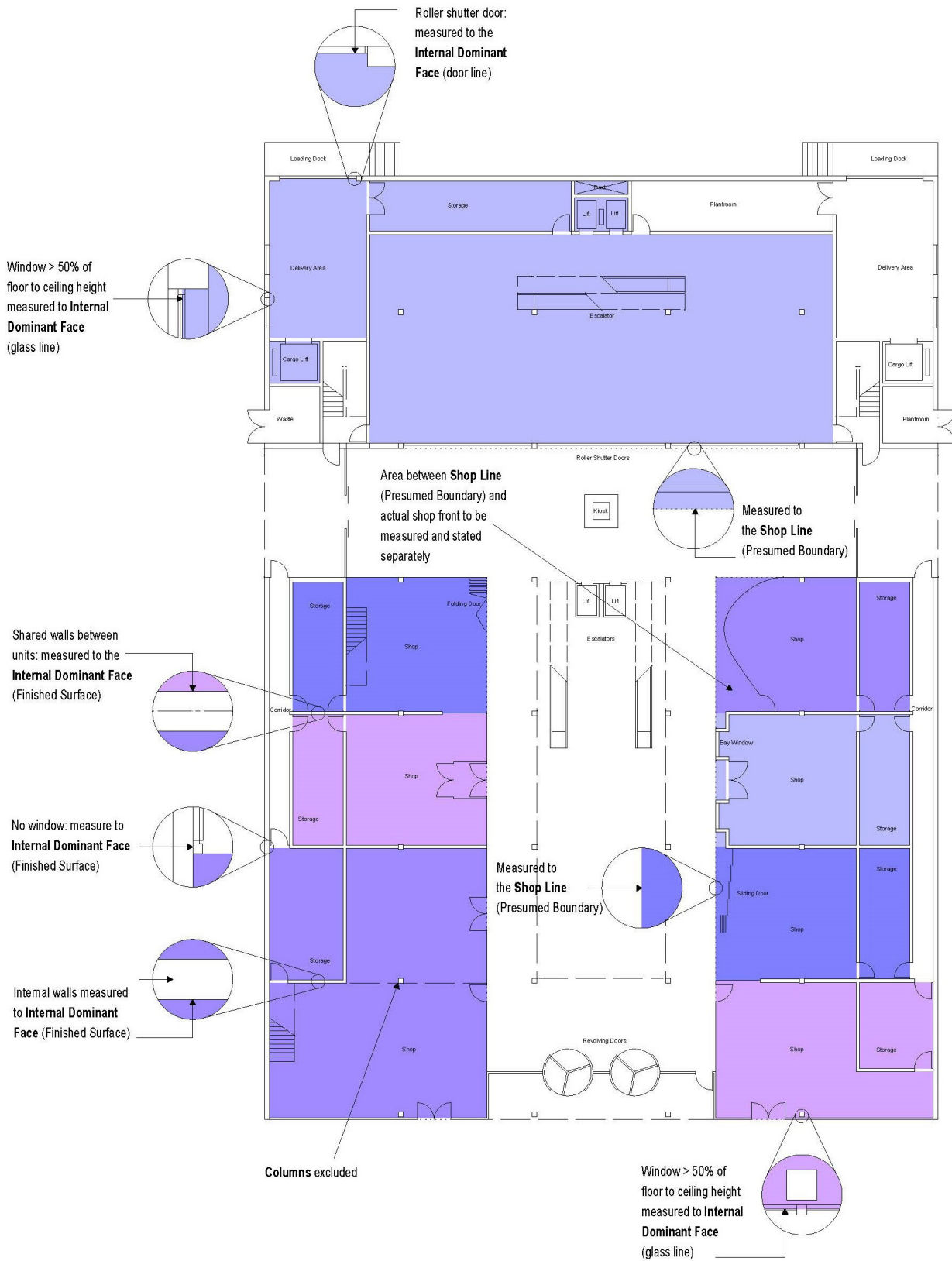


Diagram 29: IPMS 3C – Retail (mall level 0)

Diagram 30 shows the retail mall level 1 divided into exclusive use.

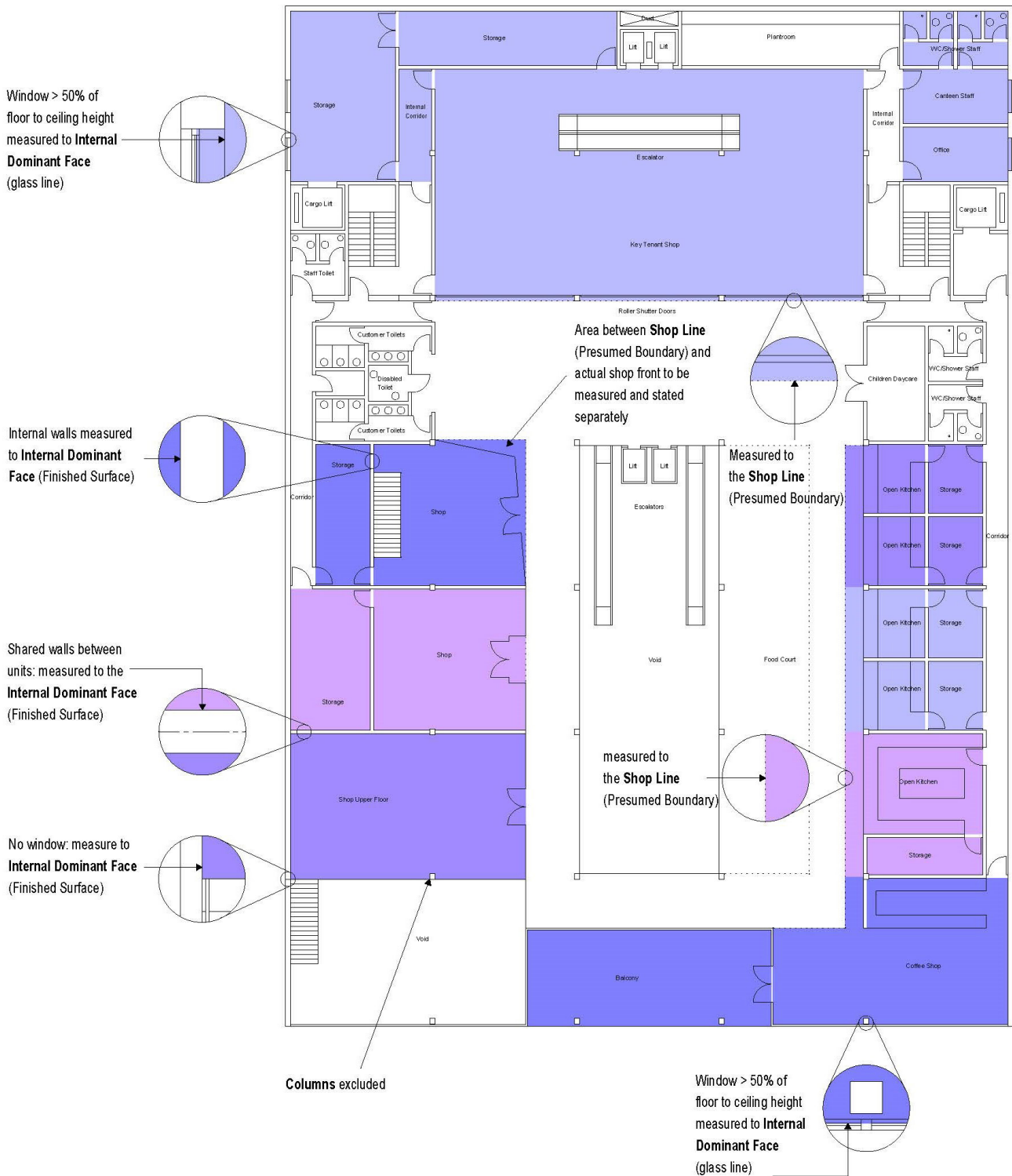


Diagram 30: IPMS 3C – Retail (mall level 1)

Diagram 31 shows a retail freestanding Building divided into exclusive use.

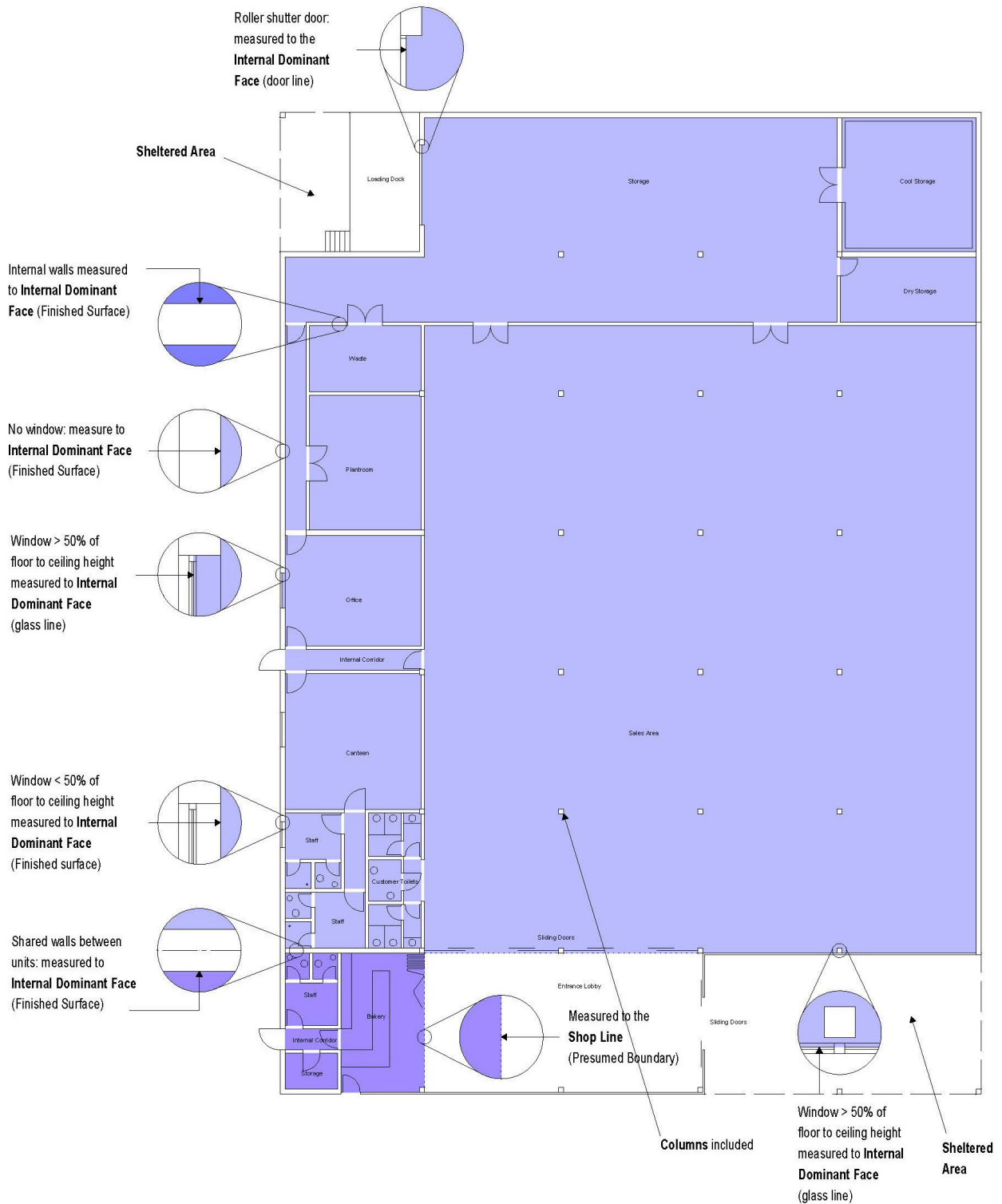


Diagram 31: IPMS 3C – Retail (freestanding Building)

Diagram 32 shows a retail strip centre divided into exclusive use.

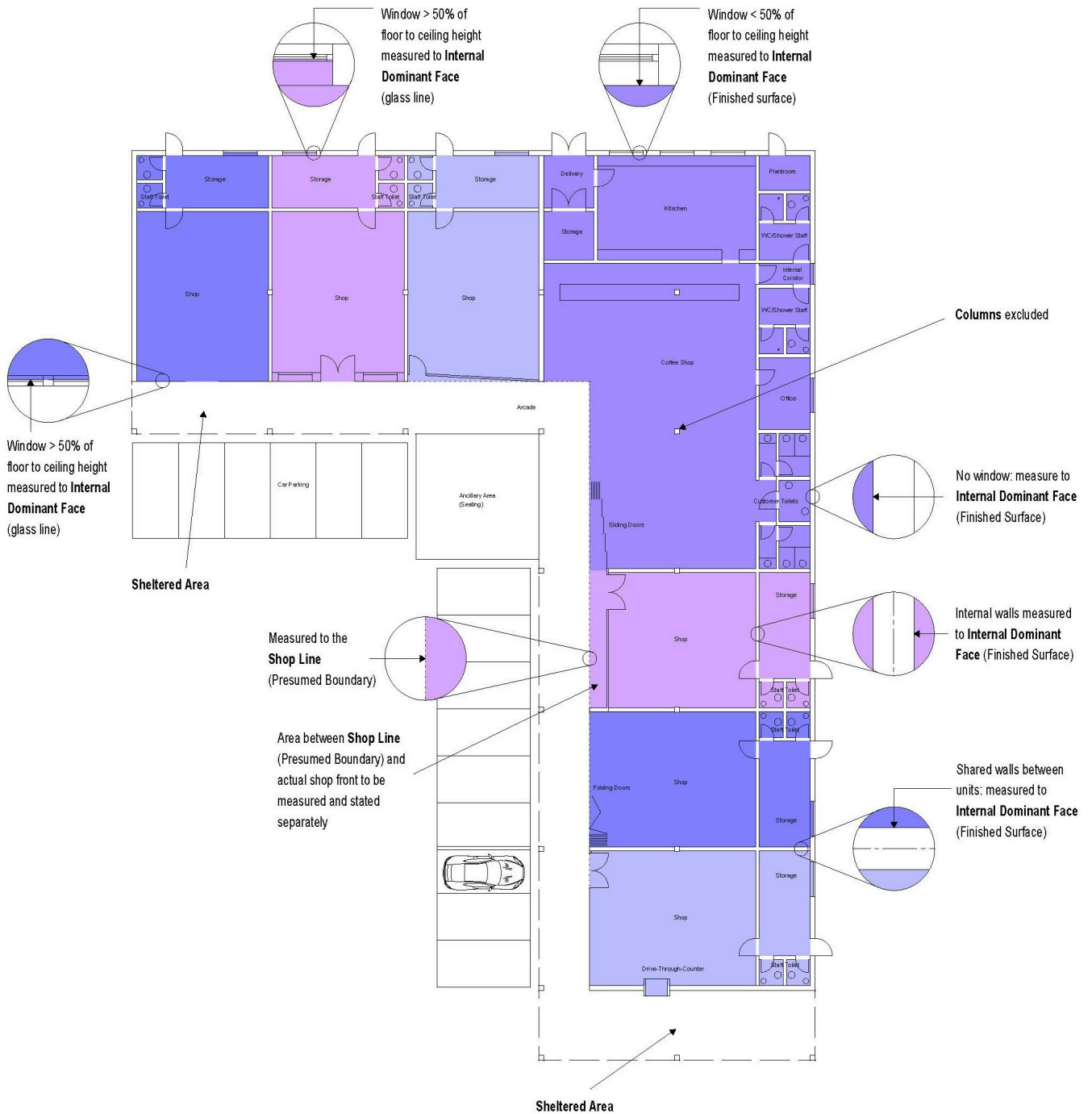


Diagram 32: IPMS 3C – Retail (strip centre)

Part 4 Technical

4.1 IPMS Retail Component Areas

If a particular portion of space may be assigned to more than one **Component Area**, it is to be assigned to the **Component Area** that best reflects its primary design within the larger space.

Component Areas, as a whole or in part, may be classified as private (being reserved exclusively for one occupier) or shared (being available for the use of several occupiers).


Areas within Component Area H not available for direct retail related use may be described as ancillary. They are to be measured but may also be stated in an alternative way. For example, car parking may also be reported by the number of spaces.


Below are suggested **Component Areas** that may be used when areas need to be separately allocated for cost or other purposes under **IPMS 1** and **IPMS 2 – Retail**. These may be further subdivided if required.

Component Area A1	Vertical circulation penetrations Examples of vertical circulation penetrations include staircase openings, stairs and lift/elevator shafts.
Component Area A2	Vertical technical penetrations Examples of vertical technical penetrations include pipes, ducts and shafts whose floor opening and surrounding walls, if any, is more than 0.1 m ² /1ft ² . Otherwise, the opening is not separately identified and remains in the Component Area where it is found.
Component Area B1	External Wall The enclosing element of a Building , including windows and Walls , that separates the exterior area from the interior area.
Component Area B2	Internal structural elements This comprises all internal structural Walls and Pillars .
Component Area B3	Internal non-structural elements This comprises all internal, full height, permanent Walls other than those included in Component Areas B1 and B2.
Component Area C	Technical services Examples of technical and building services include mechanical/electrical plant rooms, lift/elevator motor rooms and maintenance rooms.
Component Area D	Hygiene areas Examples of hygiene areas include toilet facilities, cleaner's cupboards, bath/shower rooms and changing rooms.
Component Area E1	Circulation areas – mall Comprises all public (shopper) circulation space within the mall area fronting retail outlets.


Component Area E2	Circulation areas – other All other circulations areas other than those forming part of the mall (Component Area E1), measured horizontally.
Component Area F	Amenities Examples of amenities include internal facilities such as food courts, child-minding facilities and prayer rooms for the benefit of shoppers.
Component Area G	Retailing areas All areas used for retailing comprising retail outlets, areas designated for temporary retail stores and mall promotion areas.
Component Area H	Other areas Examples of other areas include External Floor Area(s) , covered galleries, internal car parking and storage rooms, whether or not in exclusive use.

Legend of Components


 Component A1 – Vertical circulation areas


 Component A2 – Vertical technical areas

 Component B1 – External walls


 Component B2 – Internal structural elements


 Component B3 – Internal non-structural elements

 Component C – Technical services

 Area outside building

 Component D – Hygiene areas

 Component E1 – Circulation areas – mall

 Component E2 – Circulation areas – others

 Component F – Amenities

 Component G – Retailing areas

 Component H – Other areas

Limited use areas

Limited use areas as defined in Section 2.3 are included within IPMS reported areas, but must be identified, measured and stated separately.

These are technical drawings and do not represent either the tenant or mall owner's perspective.

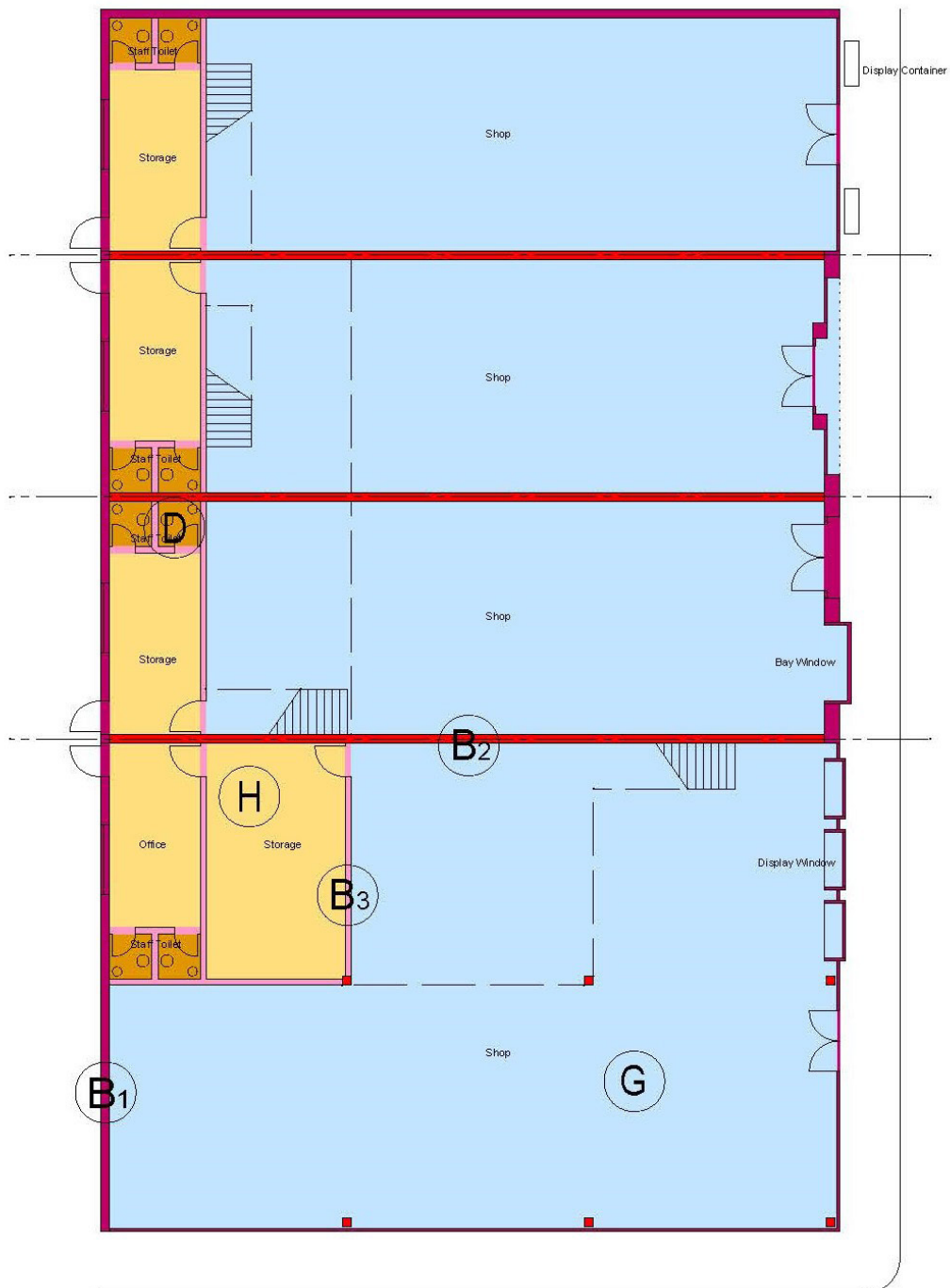


Diagram 33: IPMS Components (retail units at level 0)

These are technical drawings and do not represent either the tenant or mall owner's perspective.

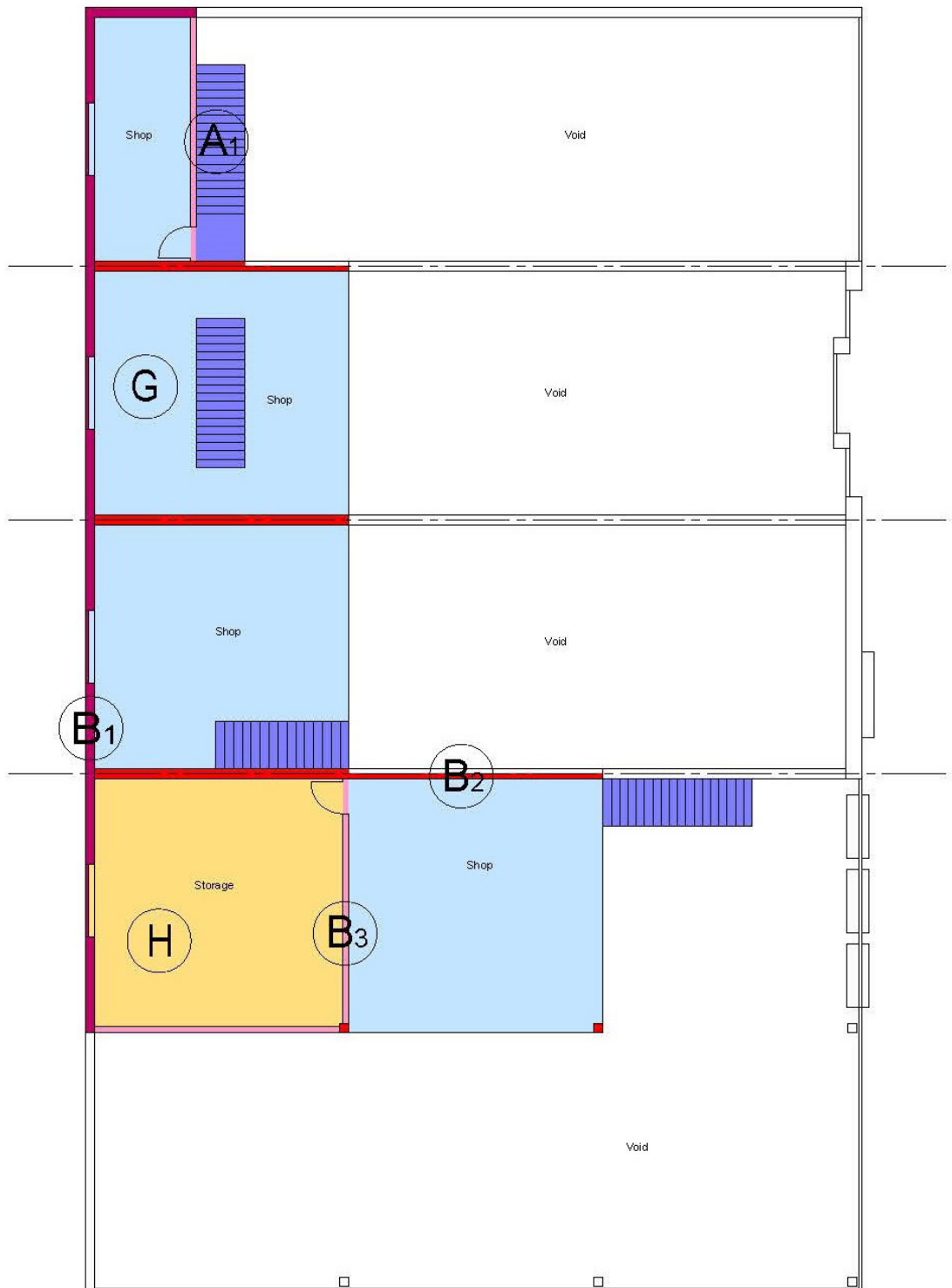


Diagram 34: IPMS Components (retail units at Mezzanine level)

These are technical drawings and do not represent either the tenant or mall owner's perspective.

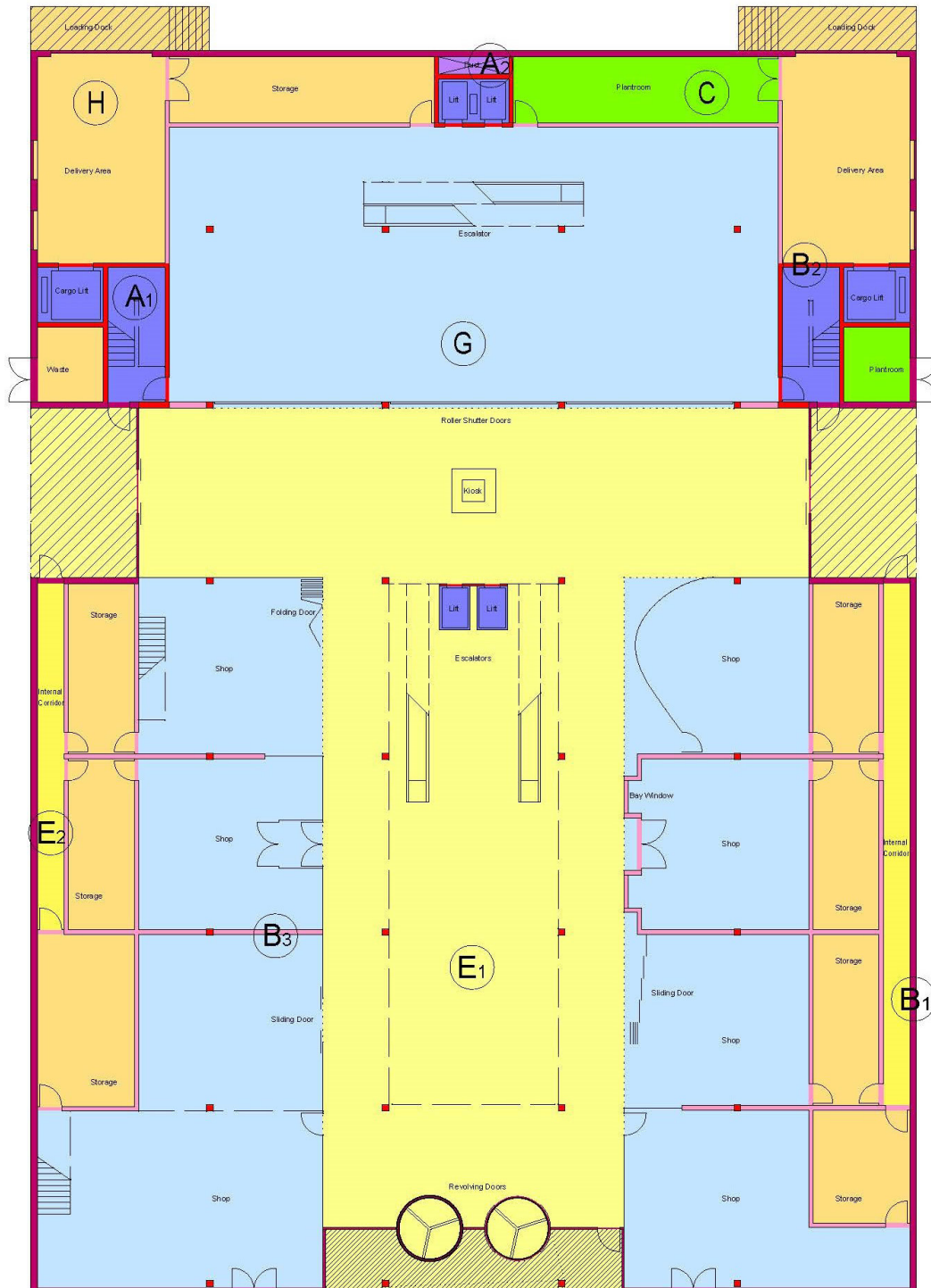


Diagram 35: IPMS Components (retail mall at level 0)

These are technical drawings and do not represent either the tenant or mall owner's perspective.



Diagram 36: IPMS Components (retail mall at level 1)

These are technical drawings and do not represent either the tenant or mall owner's perspective.

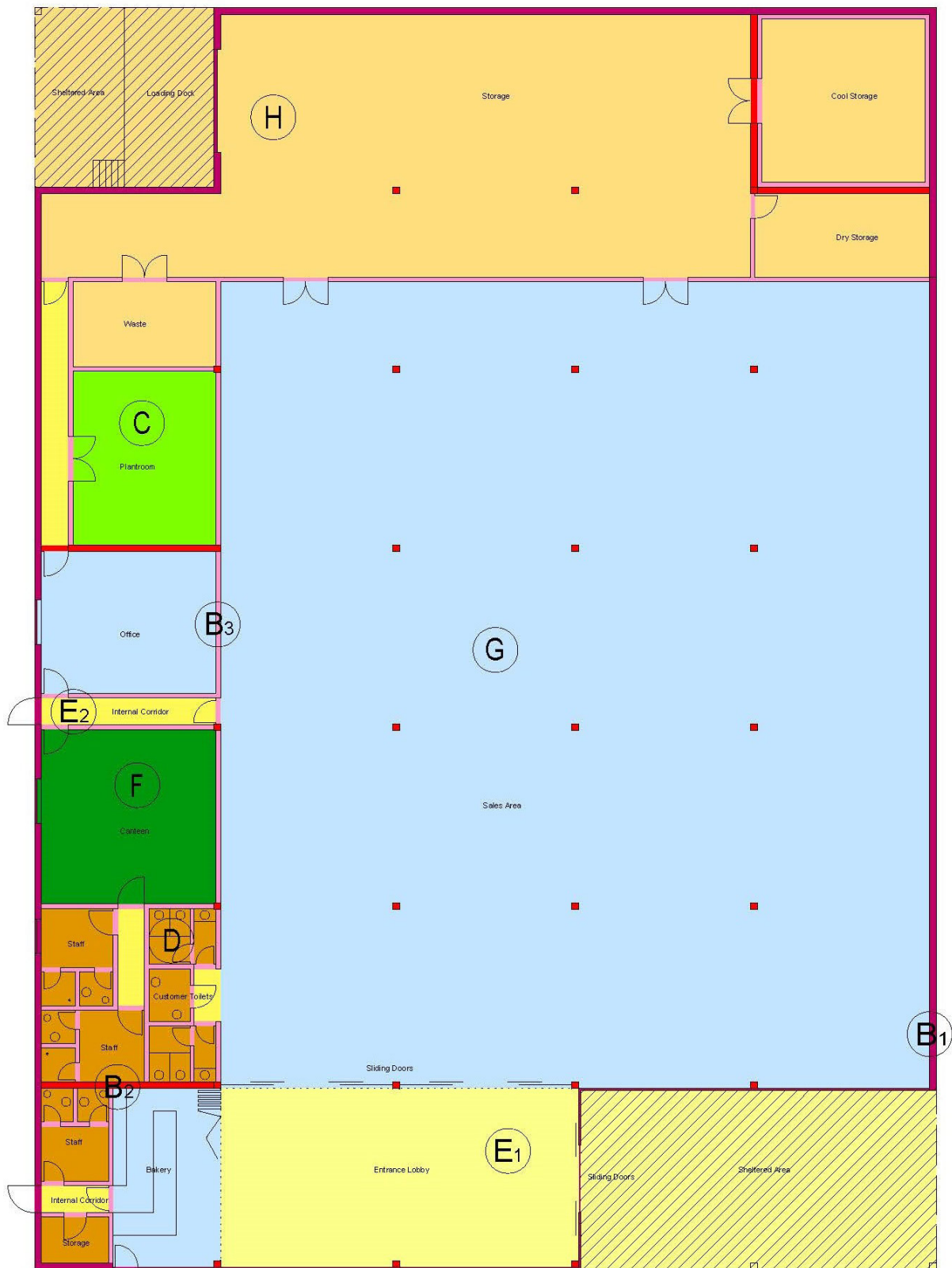


Diagram 37: IPMS Components (retail freestanding unit)

These are technical drawings and do not represent either the tenant or mall owner's perspective.



Diagram 38: IPMS Components (retail strip centre)

4.2 Internal Dominant Face

The **Internal Dominant Face (IDF)** is the inside surface area comprising more than 50 per cent of the lowest 2.75 metres measured vertically from the floor, or to the ceiling if lower for each **IDF Wall Section**. If such does not occur, the **Finished Surface** is deemed to be the **IDF**.

An **IDF Wall Section** is the lateral extent of each section of an **External Wall**, where the inside **Finished Surface** area of each part of a window, **Wall** or external construction feature varies from the inside **Finished Surface** area of the adjoining window, **Wall** or external construction feature, ignoring the existence of any **Pillars**.

If the **IDF** is not vertical, the measurement is to the **Finished Surface**.

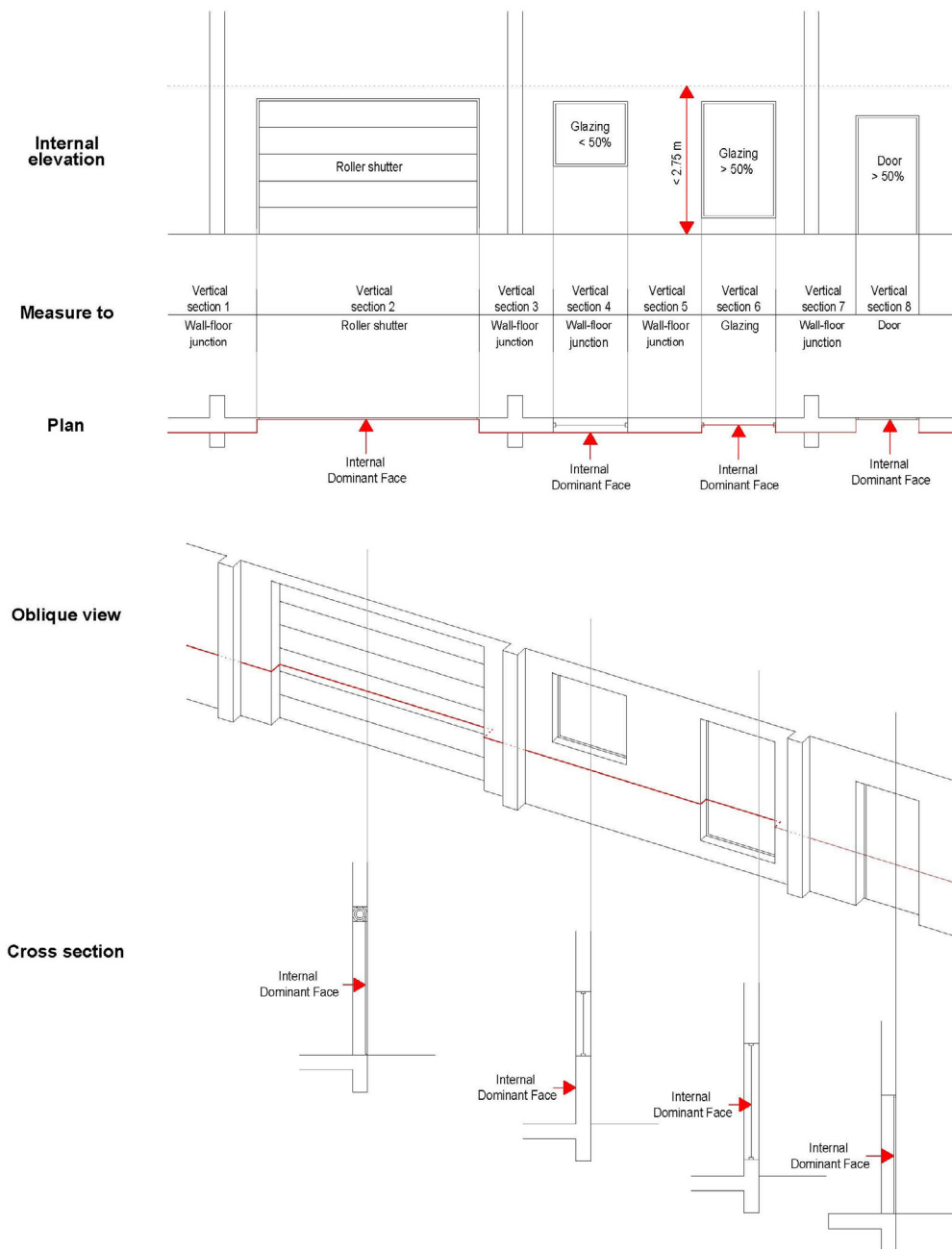


Diagram 39: Internal Dominant Face (IDF)

4.3 Clear Height and Internal Height

Clear Height is the height within a **Building** or section of a **Building** measured from the floor to the lowest point of the structural element above, ignoring the existence of any brackets, struts or fixtures and fittings.

Internal Height is the height within a **Building** or section of a **Building** measured from the floor to the lowest point of the ceiling or suspended ceiling, ignoring the existence of any brackets, struts or fixtures and fittings.

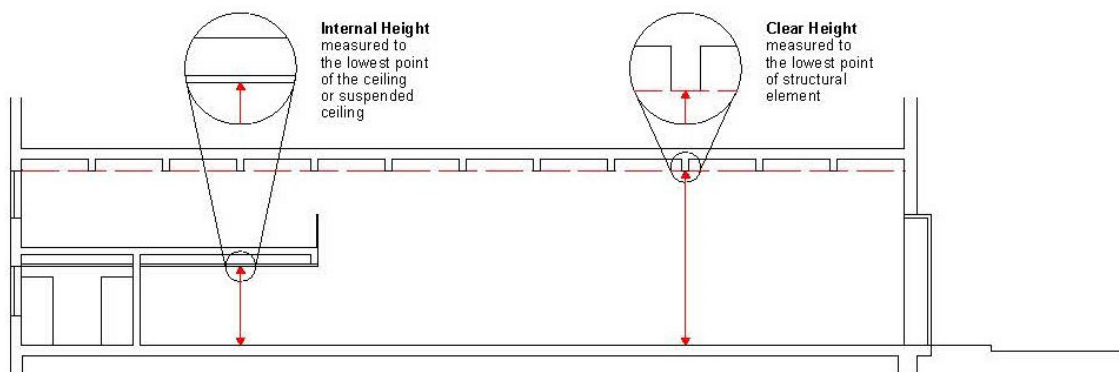


Diagram 40: Internal Height and Clear Height

4.4 Shared walls (IPMS 1)

Where a **Building** extends over more than one individually owned **Property** each separated by a shared wall, as in adjoining **Retail** units, then **IPMS 1** is to be measured to the centre-line of the shared wall unless the boundary of the titled area differs, in which case the titled area takes precedence.

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